

REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188	
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.				
1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE 29.May.03		3. REPORT TYPE AND DATES COVERED DISSERTATION
4. TITLE AND SUBTITLE REED CHAMBERS THE RISE OF AN AVIATION ENTREPRENEUR			5. FUNDING NUMBERS	
6. AUTHOR(S) LT COL STAFFORD MATTHEW C				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) UNIVERSITY OF ALABAMA TUSCALOOSA			8. PERFORMING ORGANIZATION REPORT NUMBER CI02-977	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) THE DEPARTMENT OF THE AIR FORCE AFIT/CIA, BLDG 125 2950 P STREET WPAFB OH 45433			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES				
12a. DISTRIBUTION AVAILABILITY STATEMENT Unlimited distribution In Accordance With AFI 35-205/AFIT Sup 1			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words)				
20030610 039				
14. SUBJECT TERMS			15. NUMBER OF PAGES 437	
			16. PRICE CODE	
17. SECURITY CLASSIFICATION OF REPORT	18. SECURITY CLASSIFICATION OF THIS PAGE	19. SECURITY CLASSIFICATION OF ABSTRACT	20. LIMITATION OF ABSTRACT	

REED CHAMBERS, THE RISE OF AN
AVIATION ENTREPRENEUR

by

MATTHEW C. STAFFORD

A DISSERTATION

Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy
in the Department of History
in the Graduate School of
The University of Alabama

TUSCALOOSA, ALABAMA

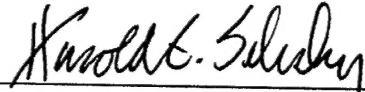
2003

Copyright Matthew C. Stafford 2003
ALL RIGHTS RESERVED

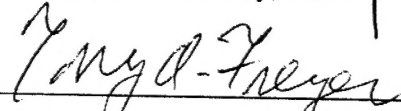
Submitted by Matthew C. Stafford in partial fulfillment
of the requirements for the degree of Doctor of Philosophy specializing in History.

Accepted on behalf of the Faculty of the Graduate School

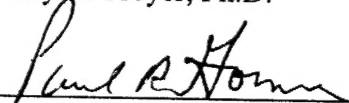
by the dissertation committee.



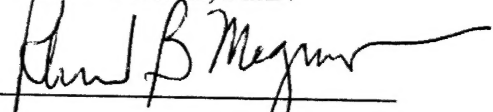
Harold E. Selesky, Ph.D.



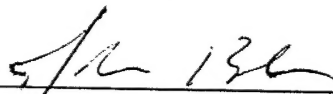
Tony A. Freyer, Ph.D.



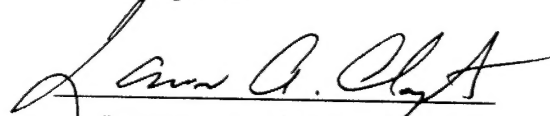
Paul R. Gorman, Ph.D.



Richard Megraw, Ph.D.



John F. Beeler, Ph.D.
Chairperson



Lawrence A. Clayton, Ph.D.
Department Chairperson

Date

Date

Ronald W. Rogers, Ph.D.
Dean of the Graduate School

The views expressed in this article are those of the author and do not reflect the official policy or position of the United States Air Force, Department of Defense, or the U.S. Government

DEDICATION

Respectfully dedicated to the family, friends, and coworkers
of Reed McKinley Chambers

ACKNOWLEDGMENTS

First, I should like to thank Polly Chambers Ackerly, Reed Chamber's daughter, for her time and attention in helping me to reconstruct her father's life. She is justifiably proud of all her father accomplished in his life and I hope that she is not too disappointed with my portrayal here. I am also indebted to her daughter, Sharon Turner, for her time and her contribution of many photographs. I am equally grateful for the contributions of Daniel Chambers, who contributed a tape-recorded interview that he had made with his great-uncle in the 1970s. Daniel presented another extremely valuable item, Winnie Chambers' photograph album. Winnie's photographs and mementos of her famous son's career provided insights that would have been lost had not Daniel trusted me with these cherished treasures.

From the University of Alabama, I wish to thank Dr. John Beeler, my advisor, teacher and friend, for his patient support and skillful advice throughout this project. On multiple occasions, Dr. Beeler helped me to view Reed Chambers' life as more than just an entertaining story of an aviation pioneer's adventures in flying, guiding me to discern deeper meanings. I am also indebted to Dr. Harold Selesky, who reviewed an early version of the manuscript and wisely advised me to reduce the scope of my work, in order to better concentrate on Chambers' contributions to America's commercial aviation industry. Additionally, Dr. Selesky opened my eyes to research opportunities that I might have missed entirely without his expertise. Dr. Tony Freyer also aided me in limiting my focus, contributing immensely to the final concentration on Chambers' development as an entrepreneurial manager. Dr. Paul Gorman assisted me both in reviewing and completing this manuscript and, through his classroom offerings, helping me understand

the interwar era and the challenges Chambers faced in the business ventures he launched during this period.

My Air Force supporters also deserve my gratitude for their support, both in selecting me for this unique educational opportunity and for their unfailing support throughout this process. In particular, I am indebted to: Colonel James Forsyth, Ph.D., Dean of the Air Command and Staff College; Dr. Lew Ware, Assistant Dean; and Dr. Richard Muller, former Dean. I never would have reached this point without them. I was also assisted by my good friends Lieutenant Colonels Terry Bentley, Charles Costanzo, Larry Dunagan, and Michael Yaguchi, as well as Majors Vicky Rast and Friend Walker. These outstanding officers cheered, encouraged, and inspired me through some very difficult times and I will always be in their debt.

I am also indebted to the men and women who assisted me during my visit to the United States Aviation Underwriters headquarters in New York City. Through the good offices of Joan Ames and Russ Mirabile, I was able to review vast quantities of documents and photographs that I would never have known existed without their help. Additionally, they were invaluable sources of information and ideas, and helped me to reach Marie Caulfield Martinez, Chambers' personal secretary for over thirty years, and Pat Vallone, a friend and coworker. Their personal recollections of their many experiences in the company added considerably in fleshing out Chambers' character in this work.

In addition, I wish to acknowledge the support of my life-long friend, Charles Filyaw, who read every line and critiqued every idea presented herein. I could not have finished this undertaking without his help. I am equally indebted to my family, who has

championed the project from inception to completion. In particular, I am indebted to my mother, [REDACTED], who cheered me on when completion seemed so far away, as well as to my older brother [REDACTED] who shares my interest in history and has encouraged me in this pursuit for as long as I can remember. Lastly, I am grateful for the love and support of my sons, [REDACTED]

TABLE OF CONTENTS

DEDICATION	iii
ACKNOWLEDGMENTS	iv
LIST OF ILLUSTRATIONS	viii
ABSTRACT.....	xii
INTRODUCTION	1
CHAPTER 1, Coming of Age	13
CHAPTER 2, War: Getting Into the Fight	54
CHAPTER 3, War: The Fighter Emerges	95
CHAPTER 4, Warrior at Peace	145
CHAPTER 5, Flying for a Living	193
CHAPTER 6, Into Insurance	245
CHAPTER 7, United States Aviation Underwriters, The Early Years	289
CHAPTER 8, War and Peace	340
EPILOGUE, Golden Years	388
CONCLUSION	407
BIBLIOGRAPHY	425

LIST OF ILLUSTRATIONS

Figure	Page
1. Onaga KS – Main Street (Leonard St.), Late 1890s, by Ms Rae Brimer Gutierrez . . .	13
2. Chambers with two friends at Colorado Springs, Colorado, 1911	24
3. Chambers as chauffeur, Colorado Springs, Colorado, 1911.	27
4. Chambers in Florida	28
5. In Memphis, Chambers could afford stylish clothing	30
6. Chambers and a friend at Eagle Pass, Texas	35
7. The Curtiss JN “Jenny” biplace trainer.	37
8. and 9. Chambers and his Thomas-Morse D-5, Chanute Field, Rantoul, Illinois, 1917 . .	49
10. The Main Field at Issoudon, Home of the American 3 rd Aviation Instruction Center . .	58
11. Chambers stands in front of a Nieuport 28C wearing his “teddy-bear,” fur-lined flying suit	68
12. Northwest Europe, 1918	77
13. Chambers beside his Nieuport – Note the Squadron Insignia	78
14. The Pilots of the 94 th , May 1918	80
15. Major Gervais Raoul Lufbery	83
16. Chambers by his Nieuport	85
17. The German Spring Offensives, 1918	93
18. First Pursuit Group at Chateau-Thierry	96
19. Chambers on his Spad	105
20. First Pursuit Group’s Patrol Sector for the St. Mihiel Offensive	119
21. US 14-Inch Railway Gun	123

Figure	Page
22. Rickenbacker at Squadron Headquarters, Rembercourt	125
23. The First Pursuit Group's Patrol Sector for the Meuse-Argonne Offensive	127
24. Allied Occupation Zones	148
25. Chambers with Captain Everett. R. Cook in front of a surrendered Fokker D VII	156
26. Chambers and his Stars-and-Stripes Spad.	157
27. Chambers in a Close-up of Squadron Logo.	158
28. Certificate accompanying award of French <i>Croix de-Guerre</i> to the 94 th Aero Squadron	163
29. Chambers' Hat-in-the-Ring Squadron Emblem on display at USAU Headquarters. . .	164
30. Major Reed Chambers arriving in New York on June 2, 1919	167
31. Left-to-Right: Alfred V. Verville, Aeronautical Engineer, McCook Field; Rickenbacker, Major Rudolph W. ("Shorty") Schroeder, Chief of McCook's Flight Test Section; and Chambers outside the Miami Hotel, Dayton, Ohio.	176
32. Field Kindley and his mascot "Fokker"	184
33. Chambers jumps from his SE-5, Kelly Field, 1919	185
34. Major Reed Chambers, 1919	188
35. Standard's "J-R" Model Military Trainer	199
36. A J-R undergoing maintenance	199
37 and 38. Florida Airways' <i>Miss Miami</i> and <i>Miss St. Petersburg</i>	216
39. Reed Chambers, President of Florida Airways, with the flagship of his fleet, <i>Miss Tampa</i>	220
40. One of Florida Airways' Travelairs being cranked up for a mail run	226
41. Paying passengers who changed their minds were encouraged to fly	236
42 and 43. Two of Florida Airways' Ford-Stout AT-2s were destroyed by the September 18, 1926 hurricane	239

Figure	Page
44. Artist's rendering of Florida Airways' Stinson "Detrouiter," delivering medical supplies to South Florida after the September 1926 Hurricane	240
45. Dave Beebe at a London train station during the Great War	250
46. Reed Chambers, Insurance Executive	262
47. USAU Logo	276
48. The Building at 80 John Street, as it appeared in 1940	279
49. The Instruments Employed in the Blind-Flying Test. The Sperry Directional Gyrocompass, the Kollsman Precision Altimeter, and the Sperry Horizon	293
50 and 51. Jimmy Doolittle behind his instrument panel, and with the blinding hood installed	294
52. The <i>Hindenberg</i> explodes into flame on May 6, 1937 over Lakehurst Field, New Jersey	311
53. Artist's rendition of the Boeing 247, the first modern airliner	318
54. <i>Explorer II</i> rises to its record-setting altitude on November 11, 1935	319
55. Post's <i>Orion-Explorer</i> takes off from Seattle bound for Point Barrow, August 15, 1935	321
56. Post's <i>Orion-Explorer</i> lies on its back in an inlet twenty miles from Point Barrow ...	322
57. A Pan-American B-314 lifts off from San Francisco Bay bound for Hong Kong, 1941	323
58. Polly Ackerly, Reed, Sally, and Myrtle Chambers, and Jack Ackerly, 1940	336
59. Reed Chambers, Charter Member of USAU's Ten-Year Club	337
60. A Junkers (JU) 52 configured for passenger service	343
61. The Design Team for the All-Stainless-Steel Cargo Plane	352
62. Watter's original plans for the all-steel cargo aircraft, filed with his patent application	353

Figure	Page
63. Sketch of the logo for Chambers' latest business venture	358
64. Rubber was gathered throughout the Amazon basin, flown to Manaus and out of the region	359
65. Tapping Rubber	359
66. Chambers meets with South American officials.	359
67. The <i>Conestoga</i> Assembly Line, Budd Manufacturing Company, 1944	371
68. Reed, Winnie, George, and Fred Chambers	375
69. Chambers, the "Big Kahuna," with Florence Kessler and Jay DeCarlo.	389
70. Chambers commissioned Eric Sloane to paint the <i>Merposal</i> sailing in the Caribbean	390
71. One of the two Cockburn-Lange Photos that appeared in the <i>Illustrated London News</i> , October 1932	392
72. Rickenbacker, Chambers, Ordway and Campbell at 1967 Reunion, Selfridge Air Force Base, Michigan	399
73. Chambers in his pressurized flight suit, ready to fly the F-106, September 26, 1967, Tyndall Air Force Base, Florida	400
74 Chambers on the occasion of his retirement	401

ABSTRACT

The life of Reed McKinley Chambers was investigated, with an emphasis on his development as an entrepreneurial manager. From his boyhood, Chambers demonstrated a predilection for aviation that was first put into practical use when he flew for the military in World War I. After the war, he returned to the United States with the hope of finding a commercial application for aviation. He founded an aerial photography company in California and America's first scheduled airlines in Florida. These endeavors failed, because of a lack of suitable demand for his services, technological limitations and, in the case of his airline, an absence of insurance to protect aviation investors from natural and operational disasters. His experience prompted Chambers to join David Beebe in founding America's first aviation insurance group, a company that has survived into the present day.

Four aspects of Chambers' rise to prominence were evaluated, and served as tools for explaining his success. These were: the development of science and technology in support of the aviation industry; the factors directly supporting commercial aviation, most notably airmen, airplanes, demand for air services, and capital; the relationship between government and business; and Chambers' interaction with his peers and subordinates. By means of these devices, it was discovered that Chambers applied his own growing skills in leadership and a natural flair for innovation to the unique opportunities available in the early years of American aviation, to fashion an entirely new, supporting industry, namely aviation insurance. His experiences are instructive, not just for the insights they provide into that early era, but also for what they offer the aspiring entrepreneur today.

Introduction

Reed McKinley Chambers was born on August 18, 1894 in a small farming community in eastern Kansas. He left home as a very young man, before finishing high school, to pursue his dream of flying. Enlisting in the Army, he was taught to fly and joined the first American-trained squadron to see combat on the Western Front. After the war, he continued to serve in the Army until he determined that America was turning its back on aviation. He decided to pursue other opportunities. After a short stint selling automobile stock, he returned to aviation, this time working in the commercial sector. At first he worked in aerial operations, but later cofounded the nation's first aviation insurance consortium. He remained a senior executive in this firm until his retirement in 1968, although he continued to serve as a consultant until his death in 1972.

Reed Chambers' life is instructive in a number of ways. His experience offers on perspective on America's involvement in World War I, the development of military aviation just prior to and during the war, as well as the evolution of commercial aviation in the postwar environment. As a result of his insurance venture, Chambers life is also instructive in terms of that industry and, because of government intervention, provides insight into the relationship between corporate America and the federal government. While each of these separate threads offers ample fodder for an academic inquiry, it is Chambers himself that is the focus of this current undertaking. In particular, this discussion will look at his development as an entrepreneurial manager, applying a variety of factors as supporting themes for analysis. They are: the development of science and

technology in support of the aviation industry; the factors directly supporting commercial aviation, most notably airmen, airplanes, demand for air services, and capital; the relationship between government and business; and his interaction with his peers and subordinates. Each of these themes will be traced to demonstrate how Chambers evolved as an entrepreneurial manager, leading to his success as a pioneer in America's aviation insurance market.

Reed Chambers seemed to have been destined for entrepreneurial greatness even at an early age. Although he was born to a farming family and spent his early years in a Midwestern agricultural community, Chambers gravitated toward technology and science at a very early age. He was particularly interested in flight and experimented with homemade kites while still living on the farm in Kansas. When his family relocated to an industrial center, he was able to see the mechanisms and inventions about which he had read, inspiring him further. Eventually his fascination with machines and curiosity about flight would lure him toward the one of the most sophisticated applications of technology for his day, aviation. While still a boy, he conducted experiments in his home, hoping to develop products and mechanisms that he could sell for a profit. Later, he applied his creativity in helping to create a commercial aviation industry in the United States, approaching this industry from a variety of different standpoints. He operated a commercial aerial photography company, served as an aviation mechanic building and selling airplanes, operated an airline, and cofounded the aviation insurance company mentioned previously. He also assisted the government during World War II in a variety of aviation projects, including the rebuilding of the South American commercial aviation industry after it had lost its Axis support and designing a stainless-steel transport,

arguably the direct ancestor of all the stainless steel commercial aircraft in service today. His efforts required an extraordinary understanding of aviation science, yet he had very little formal schooling.

Chambers' continued involvement with technological innovations within the aviation industry was key to his success as an entrepreneurial manager. Although trained in the wood-and cloth airplanes of World War I, he had to remain a technical expert well into the jet age. In order to keep abreast of developments, he traveled extensively, visiting aircraft assembly plants, airlines, training facilities, and attended both national and international conferences on aviation. He also read the engineering literature and remained in close contact with aviation manufacturers, engineers, and test pilots. In those instances where technological developments offered benefits to the industry at large, particularly when they affected safety, Chambers served as a spokesperson to champion them. Seatbelts for passengers and air crews, simulator training sessions, and higher qualification standards for pilots were just a few of the innovations he advocated.

In fairness, however, Chambers and his insurance company netted other benefits from their pursuit of technological advances. As aviation evolved and safety innovations were adopted, the airlines' safety records improved, reducing the number of claims. Yet it is equally true that as the number of claims was reduced, the cost of individual claims skyrocketed. Planes became larger, more complex, and correspondingly more expensive. In addition, each new model carried with it an increased risk as pilots and support personnel struggled to become comfortable with the improved technology. Chambers and his team of underwriters had to monitor aviation science and technological developments in order to assess risks accurately so they could set their premiums

properly.¹ Too low, and the company would be ruined paying its claims; too high and it would lose its business to competitors that entered the market in the years after Chambers' company was founded. For these reasons, the state of aviation technology remained a vital consideration throughout Chambers' professional life.

In addition to remaining abreast of technological developments, Reed Chambers also had to remain attuned to changes within the commercial aviation industry itself. A number of factors were required before commercial aviation could develop and thrive in the United States. First, commercial aviation required airmen – engineers, pilots, and mechanics to build, fly, and repair a commercial air fleet. Secondly, the industry needed aircraft suitable for commercial enterprises. The single-seat fighters of the First World War were wholly unsuitable for the cargo and passenger loads that would make commercial aviation a viable enterprise. Next, there had to be a demand for the industry's services: people to book passage, send cargo, and use airmail services. Somehow, aviation pioneers would have to help America's citizens to overcome their natural disinclination toward flying, in order to create a market for their airlines and services. Lastly, the industry needed capital. This required visionaries who could look beyond the flimsy planes, limited ranges, and poor safety record of post-World War I aviation to see the promise of the industry yet to come.

Chambers had direct involvement in three of these four factors. He was trained as a pilot early in America's aviation history, fighting in the nation's very first aerial

¹ Just a few of the prominent risks Chambers and his company covered were: the Boeing 247s, the first high speed transport aircraft introduced in 1933; the National Geographic stratospheric test flights of 1934 and 1935; Boeing 314s, the huge seaplanes that earned fame as Pan-American's clippers; test flights for the military's B-19, B-29, and B-52 aircraft; the Boeing 707; the international communications satellite COMSAT Early Bird; and the Grumman Corporations Lunar Excursion Module. Obviously such a wide variety of risks, over such a long period of time required a staff keenly attuned to technological innovations within the aerospace industry.

engagements. After the war, he received surrendered German aircraft and tested new American models, broadening his exposure to and understanding of various aircraft designs and capabilities and further enhancing his prowess as a pilot. Because of his personal efforts to stay attuned to technological developments in aviation, Chambers was poised to grasp the significance of Henry Ford's 1925 announcement that his automobile firm was joining with the Stout Metal Airplane Company to produce an aluminum monoplane suitable for passenger and cargo applications. In response to this announcement, Chambers secured the investment necessary to buy four of the planes and started one of America's first scheduled passenger and airmail services, Florida Airways. Unfortunately, he was ahead of his time as there was not yet a market sufficient to support his endeavor. America would not embrace aviation until after Lindbergh's historic flight to Paris in 1927, a few months after Chambers' airline had declared bankruptcy. Ironically, given his fascination with technology and piloting skills, it was the final factor, capital, with which Chambers was most intimately involved.

Prior to starting his own airline, Chambers had secured investors for both Will Durant's and Eddie Rickenbacker's motorcar companies, by selling stock. When he started his Florida Airways, Chambers was able to turn to many of the friends and investors he had met during his days in the service and as a stock salesman. He was not, however, able to guarantee their investments. On the contrary, aviation was so risky at the time that he decided only to approach those potential investors who could afford to lose all the money they offered him. This occurred during the mid 1920s, a prosperous time for American financial investors. Yet repeated accidents caused Chambers to call on his investors time and again until finally, following the loss of two of his prized Ford

airplanes in a hurricane and the death of two passengers when a third plane crashed, he realized that his investors could not be expected to supply funds indefinitely. Partly as a result of this revelation, Chambers joined another former World War I pilot, David Beebe, to form an aviation insurance company. They began operating in 1928, just before the stock market crash, when investment capital dried up considerably. With capital now guaranteed against the hazards inherent in operating aircraft, however, wealthy investors continued to support airlines through the Depression. His company grew to become one of the giants in the worldwide aviation insurance industry, a position it continues to hold in today's market. That commercial aviation survived the hard times of the Depression and the lean years of the Second World War to grow into today's industry is in part due to Chambers' and Beebe's vision.

Another aspect of Chambers' role as entrepreneurial manager was the manner in which he interacted with his subordinates. His skills at dealing with subordinates appear to have been heavily influenced by his military service. There, for the first time in his life, he was accountable for others and had to learn how to inspire them to perform. He had to shed an earlier preoccupation with his own performance and a tendency toward complete self-reliance to become a leader. Through his own mistakes and by observing the traits of those around him, he developed his own unique style of leadership that was at once authoritative and inclusive.

Although born to a decidedly middle-class family, it is obvious through Chambers' actions even while still a fairly young man that he had aspirations to join the social elite. He sought out rich and powerful friends, affiliated himself with organizations that would propel him upward socially, and pursued the trappings of wealth and power that were

popular for his day. Fortunately, he married a woman who shared his aspirations so that the two were able to weather the years of hard work to enjoy their wealth and social position.

Only during the early months of the war did Chambers find his humble origins a problem. Among the American flying cadets in Europe, he was one of the few who had not come from a wealthy background or from an American college. Aligning himself with Eddie Rickenbacker, formerly a mechanic and race-car driver, Chambers blamed his companions' prejudice against Rickenbacker's German surname for the pair's ostracization. In the stress of combat, however, new measures of status quickly replaced those that governed the pilots' selection of comrades while training. Aerial prowess and aggressiveness replaced social standing as a determinant of who was and was not acceptable for friendship. Chambers and Rickenbacker earned their compatriots' respect and were eventually accepted in the group. Even given his newfound acceptance, however, Chambers experienced difficulties when attempting to lead.

In one instance, his "one-of-the-gang" approach to leadership failed miserably. Late in the summer of 1918, when he was serving as the informal leader of his squadron, a number of losses and a rigorous flying schedule combined to drive down morale in Chambers' unit. At a time when, his squadron desperately needed authoritative leadership, he found himself unable to assert himself to effect a positive change in his unit. The squadron foundered for weeks until Rickenbacker returned from sick leave and was appointed Squadron Commander of the 94th.

Chambers never lost his "one-of-the-gang" approach to leadership, though he definitely refined it over the course of his professional life. In his wartime experience, he

tried and failed to motivate his peers by pointing out that they all shared the same risks and opportunities. Yet he found that he lacked the means to improve his pilots' lot substantially. At the same time, he lacked the spark that would allow him to spur his people to become more aggressive merely by force of his will. As hard as he was on himself throughout his months at the front, Chambers never emerged as a truly effective combat leader. Later, in his commercial endeavors, when he was given the means to affect his employees positively, his leadership approach was much more successful.

While running his aerial photography business in California, he hired a mechanic and treated the man as an equal partner in the business. In Florida Airways, he took a similar approach, which guaranteed loyalty so long as he was able to continue to provide the pay and benefits he originally offered. As the airline's fortunes fell, however, his employees began leaving for other opportunities. In the insurance business, however, Chambers was able to maintain pay and benefits at a level that kept his employees satisfied, while generating tremendous loyalty through his common-man manner. This approach helped ensure that his employees rejected any movements to unionize, a move Chambers feared a great deal. If his employees felt amply rewarded, it is equally true that they did not feel coddled. On the contrary, they felt pressured – if only to work as hard as Chambers himself – but also felt tremendous devotion, to their jobs, their company, and to their boss.

In many ways, they identified with their boss. He was a self-made man. Without even finishing high school, he had worked to become a successful entrepreneur. If he could do it, so could they. What they did not see, however, is the internal conflict inherent in Chambers' ambitions. On the one hand, he wanted to see himself as a rich

and powerful man – a leader in his industry. Yet on the other, he never lost his humble sense of himself so that even after he had become phenomenally successful as an aviation insurance executive, he still interacted with mechanics, pilots, and his own employees on a decidedly informal footing. His “common-man” approach worked very well in most instances, particularly in his business ventures, fostering loyalty and devotion in his subordinates. He appeased his desire for social stature through his frequent business and personal contacts with powerful business leaders, senior military officers, and other leaders in aviation.

Although his leadership skills may not have been up to the challenges he faced in the war, another facet of Chambers’ personality was fully developed at a very early age. Even as a boy, he demonstrated an indomitable will. The negative aspects of this characteristic were the conflicts it inspired with his equally strong-willed father, and with other authority figures. On the positive side, however, Chambers’ resolve was reflected in a variety of characteristics that were instrumental in his success. Perhaps most importantly, he possessed perseverance. Whether in the infantry, in combat, in his airline, or in his aviation insurance business, Chambers pursued his goals doggedly, despite setbacks that might have discouraged a less resolute individual. His remarkable willpower was also betrayed in another skill developed at an early age; Chambers was a exceptional salesman. Handsome and gregarious, he pursued sales much as he pursued all of the goals in his life, earning a well-deserved reputation for this skill. Whether selling cars, stocks, or ideas – securing investors for his many commercial endeavors – his ability to bend others to his will was demonstrated very early and continued to

develop throughout his life. It was a key ingredient to his success as an entrepreneurial manager.

Another aspect of Chambers' entrepreneurial management persona that developed during his time in the service was his opinion of the federal government. Although he remained fiercely patriotic, he learned during this period that his government was not infallible. He had been attracted to both the order and pageantry of military service at a very early age, prompting him to join a quasi-military unit when he was a young man. After the outbreak of World War I, however, there was a tremendous demand for soldiers and Chambers and the fellow members of his drill team joined the National Guard. They were hastily readied for border service, to counter Pancho Villa, but saw no action. Still driven by a desire to fly, Chambers transferred from the Guard into the Regular Army just as America declared war on Germany. He learned to fly, fought alongside Eddie Rickenbacker in the 94th Aero Squadron – the famous Hat-in-the-Ring Squadron – and survived the war as an ace, having downed seven enemy aircraft. After the war, he remained in the service as part of the American occupation force in Germany, then returned to the United States first as the commander of his old combat Squadron, then later as the Group Commander over several fighter units.

During his military service, he learned firsthand how unprepared for hostilities America had been prior to World War I. Caught in the nation's headlong rush to provide forces, Chambers found himself deployed to training camps that had yet to be built, and pushed through a flight-training program that was still being developed even while the cadets were learning to fly. His haphazard training produced an adequate pilot, equipped with an adequate plane, but inadequately prepared for the rigors of combat. It took

months for Chambers to master the skills he needed to be effective in combat.

Unfortunately, many of his contemporaries did not survive long enough to complete this on-the-job-training program. After the war, Chambers was also witness to America's dramatic reduction in military strength. Flying worn-out surplus aircraft, he watched in horror as friends were killed in senseless accidents, while the government ignored the Air Corps' pleas for new aircraft and improved designs. Frustrated, he finally left the military to pursue other opportunities. From his introduction to federal military service in the summer of 1916 to his separation four years later, Chambers observed an expansion and contraction of America's military forces that he found profoundly disturbing. This experience guided his efforts to avert a similar American response to the demands of World War II, but also informed all of his reactions to and relationships with government agencies for the remainder of his life.

From his own combat experience, he surmised the government was prone to rash decisions, shortsightedness, and a tendency to overlook critical requirements in aviation while at the same time interfering in other aspects of the industry that Chambers felt were best left alone. His reaction to this was consistent with the persistent nature he had displayed as a child: he remained engaged. Whether working in the military, or as a civilian entrepreneur vying for a government airmail contract, as a leader in the aviation insurance industry trying to hammer out the limits of government regulation, or as one of Franklin Roosevelt's "Dollar-a-Year Men," Chambers continued to work with the federal government for the betterment of American aviation.

Perhaps the most difficult period for Chambers in terms of his relation with his government began during World War II when his company became the subject of almost

twenty years of government investigations. Despite his patriotic support for the nation, Chambers bitterly resented its government's intervention in the aviation insurance market and spoke with great rancor over its repeated intrusions. His firm and the entire aviation insurance industry were accused of charging excessive premiums and participating in monopolistic practices. Throughout the ordeal, his approach remained consistent. He remained patiently and steadfastly committed to educating the government's investigators, confident that once they understood his industry and his company's practices that they would accept that there was no attempt to control the market or exact unreasonable profits. The charges were eventually answered satisfactorily, and Chambers' company was vindicated, but it was a long, trying period for everyone involved.

In the end, despite consistencies in terms of his willpower, salesmanship, and his commitment to aviation, Reed Chambers evolved significantly as an entrepreneurial manager during the course of his professional life. He observed firsthand the shortcomings in American aviation and tried in a variety of ways to overcome those challenges to become successful in his selected industry. The fact that he achieved his goals is testament to his vision. That he did so despite failures that might have derailed the aspirations of a lesser man is testament to his perseverance. His is a remarkable story, offering a new view of the growth of the commercial aviation industry in this country.

Chapter One

Coming of Age



Fig. 1. Onaga KS – Main Street (Leonard St.), Late 1890s, by Ms Rae Brimer Gutierrez¹

The small town of Onaga lies forty miles northwest of Topeka, just thirteen miles north of where the Oregon Trail crossed eastern Kansas. It was born as a way station, the eventual midpoint of the Kansas Central Railroad. That line was supposed to connect Leavenworth, eighty-two mile's due east of Onaga, to Miltonvale, eighty-four miles west.

Incidents from Reed Chambers' early life are taken from four interviews, unless specifically noted otherwise. The four interviews are as follows: 1) *The Reminiscences of Reed Chambers*, Oct. 1960, in the Oral History Collection of Columbia University, hereafter referred to as *Chambers Reminiscences*. Kenneth Leish conducted this interview as part of *The American Heritage History of Flight* project. Transcripts are on file at Columbia University, New York, New York, and at the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama, hereafter referred to as "AFHRA." 2) Reed Chambers interview by Daniel Chambers, great-nephew, tape recording, June 24, 1967, transcript in the author's possession. This interview will hereafter be referred to as the "Chambers, *Interview*." 3) Polly Ackerly, daughter of Reed Chambers, interview by the author, tape recording, March 25, 2002, transcript in the author's possession, hereafter referred to as the "Ackerly, *Interview*." 4) Marie Caulfield Martinez, personal secretary to Reed Chambers from 1947 until 1972, interview by the author, tape recording, February 20, 2002, transcript in the author's possession, hereafter referred to as the "Caulfield, *Interview*."

¹ Courtesy of Rae Brimer Gutierrez, artist, Vermillion Valley Design, Onaga, Kansas

The company, however, lacked sufficient funds to complete the entire route, so for the first three years of its existence, the new narrow-gauge railroad terminated in Onaga.² It was during this period, in the late 1870s, that the small settlement grew into a town.

Save for the railroad, Onaga resembled many midwestern agricultural communities of the day. Much of the work performed relied upon manual labor or harnessed draft animals.³ In the 1890s, the town's fire department consisted of a hand engine, 12,000 feet of hose, and two large cisterns. Municipal lighting, in the form of seven liquid-fueled streetlights, was not installed until 1899 and, despite frequent water shortages; town leaders did not authorize construction of a centralized municipal water system until 1911.

Though not as technologically advanced as the major cities of that era, Onaga was not closed to the idea of innovation.⁴ Tractors began to appear in local fields in the 1890s, and cars became a common sight within the town by the early 1900s. Onaga could even boast its first private telephone line, connecting the town doctor's home to his office, by 1898. These advancements, however, were not the catalyst for Onaga's growth.

It was the town's fertile soil and seasonable atmosphere – conditions excellent for agricultural pursuits – that attracted hopeful settlers from all over the region. One of those who came to the growing community to make his fortune was J. B. Chambers, formerly of Tescott, Kansas. He, his wife, and several sons arrived in Onaga in 1885 and, through hard work and careful saving, were able to buy their own small spread just

² Dorothy Brimer, Marjorie Labbe, and Mary Lieb, *The History of Onaga* (written for The Onaga Historical Society, Valley Ho! Publishing Company, St. Mary's, Kansas, 1982), 1-11.

³ Technology in Onaga: Ibid., 7-8.

⁴ Ibid.

outside of the town in 1890.⁵ One son, Sherman, took a special liking to Onaga as he was growing up, and decided to make it his home.⁶ There he met Winifred (“Winnie”) Emma Saunders, a schoolteacher. They courted as Sherman saved money to purchase his own farm. When he had enough, Winnie consented to leave her classroom to help with the chores and raise a family. The two married and had a son, Reed McKinley Chambers, who was born at home on August 18, 1894.⁷

Reed was a strong and handsome boy, infused with both his mother’s natural curiosity and his father’s stubbornness. The latter would prove to be both a blessing and a curse throughout his life. Like his curiosity, young Chambers’ stubbornness was a characteristic that materialized very early. It was obvious even in his early childhood. When still a young boy living on the farm, he had raised a young lamb, feeding and pampering the animal like a pet. Disregarding his son’s feelings in the matter, Sherman eventually decided the lamb had grown sufficiently to bless the family table. At dinner, Reed defiantly refused to eat his slaughtered pet. But his devotion did not end there; for the remainder of his life, he never ate lamb again, frequently recounting the tale of how his father had butchered his beloved lamb.

By all accounts young Chambers and his equally strong-willed father were never close. Sherman was a stern man and it is likely that Reed was punished harshly for his

⁵ J. B. Chambers was not a native Kansan, but had been born in Adams County, Ohio, in 1831. He met and married Mary O’Neal and was living in Peoria, Illinois when he was called to serve the Union Army as a wagoner for the 151st Illinois Regiment during the Civil War. He remained in Illinois for eight years after the war, leaving for Kansas in 1873 to seek a better life for his wife and ten sons. (*Westmoreland Recorder*, Topeka, Kansas, March 7, 1907, 4.)

⁶ Two of J.B.’s children, Marion and Gilbert, did not accompany J.B. to Onaga. Marion was an adult at the time and elected to remain in Tescott. Gilbert was killed at the age of eleven, when he was thrown from a horse. The remaining sons, except for Sherman, all left Onaga when they reached maturity. (*Recorder*, 4.)

⁷ Certificate of Live Birth for Reed McKinley Chambers, Pottawatomie County, Kansas, issued by J. W. Dunn, April 7, 1930. Note: Various sources offer conflicting birth dates for Reed Chambers. This author has elected to use the date specified on the official birth certificate.

frequent transgressions. With his mother, however, the boy enjoyed a very close, supportive relationship. Being a teacher, she marveled at her son's curiosity, encouraging his learning. Probably because of this early support, Chambers remained a life-long learner, pursuing topics ranging from astronomy and mathematics, to engineering, art, and classical literature.⁸ His mother began teaching him at home, long before he was old enough to attend public school. No doubt this aggravated his father, as there were plenty of chores on a family farm in that day.

In an interview in 1960, Chambers recalled that one of his favorite distractions from his farm chores had been flight. He claimed that even before the Wright Brothers' successful experiment at Kittyhawk, he would watch the birds and dream of being able to soar through the air, oblivious to the limitations of physics that kept him earthbound. He experimented with kites, marveling at the power of the wind to carry his creations aloft. His mother encouraged him in these aeronautical pursuits, although his father undoubtedly resented the boy's time away from chores.

That a farm boy in Onaga should experiment with kites was not unusual. Most schoolboys had heard the story of Ben Franklin and his kite-flying electricity experiment, and many children built and flew kites. What is unusual is that a boy from Onaga should move so far from his roots, abandoning the Midwestern, agricultural lifestyle of his youth

⁸ An inventory of the books in Reed Chambers' corporate office at the time of his death underscores the diversity of his interests. A large number of these books are still preserved in the corporate vault at USAIG, and many have been annotated in Reed's own hand. Further, in interviews with his secretary and a coworker, this author learned Reed often brought people into his office just to explain new ideas or share information on projects on which they were working. See Marie Caulfield-Martinez letter, dated Jan 9, 1973 to Mr. Royal D. Frey, Curator of the Air Force Museum, with attachment "Estate of Reed M. Chambers - Books," on file in USAU archives, boxed with many of the books listed. Recalling his reading and office visitors, Marie Caulfield-Martinez, his secretary for thirty-five years, said "he was interested in everything." (Caulfield interview, 23.) Pat Vallone, a coworker who worked with Reed for over 20 years also recalled Reed's thirst for knowledge agreeing that Reed had his "mind on everything." (Pat Vallone, a coworker and friend of Chambers' from 1947-1972, interview by Matthew Stafford, tape recording, February 19, 2002, transcription page 3. A transcript of this interview is in the author's possession and hereafter this source will be referred to as the "Vallone, *Interview*.")

to pursue a career on the cutting edge of an as yet untried technological innovation.

Chambers' early penchant for aviation seems to underscore the adventurous nature that governed his behavior throughout his life. Further, the fact that his father opposed it may have helped fuel the boy's enthusiasm; another reflection of his stubborn resistance to his father's authority.

About this time, around 1900, Sherman Chambers saw an opportunity to make his fortune by leaving the family farm in Onaga and heading to Allen County, Kansas, a hundred miles south-southeast of Topeka.⁹ Natural gas had been discovered there in the late nineteenth century. This discovery, coupled with the recent construction of several large smelters, processing the abundant zinc ore found in the region, created hundreds of high-paying jobs for unskilled laborers. Sherman intended to capitalize on the boom. He sold the family farm and moved to LaHarpe.

Where Onaga had been a peaceful farming community, reflecting its citizens' desire for structure and permanence, LaHarpe was something of an industrial boomtown. It must have appeared strange to the newly arrived Chambers family, unaccustomed as they were to the bright lights, loud noises, and pungent scents of industry. Trolleys ran twenty-three hours a day, supporting the round-the-clock shifts required at the smelters and drill rigs.¹⁰ In 1902, the trolley company built Electric Park, a fantastic amusement park boasting electric lighting, movies, and other technological marvels. The park, built just outside of town alongside the trolley lines, featured dancing, boating, and swimming,

⁹ Onaga and LaHarpe did not publish city directories for this time period, nor is there any official record of the Chambers' family passing from Onaga to LaHarpe. The year 1900 seems most plausible simply because Chambers recalls starting into the first grade after arriving in LaHarpe.

¹⁰ The Iola Electric Railway Company was founded in 1901 by wealthy investors in Iola – the county seat of Allen County – to solve the problem of getting workers to and from their jobs. They built the trolley system then, a year later, used revenues from the trolley system to build an amusement park. (*Iola Register. A Pictorial History of Allen Country*, Heritage House Publishing, Marceline, Missouri, 1991, 20).

as well as live shows and other amusements to entertain Allen County's industrial laborers. Using its trolley system to bring in customers, Electric Park collected a quarter-of-a-million admissions by 1907.¹¹ In the first decade of the twentieth century, the area appeared to have virtually limitless economic potential.

Not only had the vast quantities of natural gas fueled the region's industries, but it had also been harnessed for thrilling and unusual lighting displays. In the evenings, gas vents were often intentionally ignited to create huge, billowing orbs of brilliant flames against the night sky.¹² When, in 1898, the twenty thousand members of the Modern Woodmen of America passed through LaHarpe on their way to a convention in Iola, they were greeted by a fantastic pyrotechnic display. The word "Welcome" was spelled out in blazing gas jets from pipes arched over the main thoroughfare, while other gas vents powered screaming whistles.

Through the father's steady income and the proceeds from the sale of their farm, the Chambers enjoyed a level of affluence that kept them out of the rag towns – the small, squalid camps springing up for workers and their families – that were becoming common in the area. The family settled into a two-story, wood-framed house in town. There was even extra money to support luxury purchases. Chambers later claimed that, "Dad owned one of the first cars in that part of Kansas."¹³

Having reached school age, young Chambers reported to the LaHarpe Elementary School for his first classes. Because of his mother's home schooling, however, the teachers quickly found the boy too advanced for first grade, and placed him in the second

¹¹ Ibid., 20.

¹² Faddis, Ida. *The Weith, Newton, and Faddis Story From 1870 to 1970*, undated, unpublished genealogical report, on file at the Iola Free Public University, Iola Kansas, 12.

¹³ Chambers *Reminiscences*, 7.

after only one week. He continued to shine, finishing the fourth grade in his second year at LaHarpe. He seemed to excel in almost every subject, particularly math and science. He was not as adept, however, with language. In particular, he had difficulty with spelling. These difficulties would have unexpected and severe consequences in his teenage years.

As the family grew more prosperous, it also grew in size. Sherman and Winnie Chambers had two more children: George, born in 1901, and Fred, born in either 1903 or 1904.¹⁴ Reed was now forced to share his mother's attention. This seems to have driven him toward solitary pursuits.

Among these pursuits were his growing interest in mechanics and his continuing interest in flight. Freed from his farm chores and now armed with sufficient funds to buy materials for his projects, the boy advanced his understanding of science through experimentation. Undoubtedly his exposure to the advanced industrialization and mechanization he encountered in LaHarpe fueled his innovative nature. He incorporated metal and machined parts into his scientific investigations. In his little room upstairs, he developed something of a workshop, tinkering with models, clockworks, and other mechanical apparatuses that fell into his hands, as well as continuing to build his kites.

Despite LaHarpe's technological modernity, when news of the Wrights' flight reached the town in December of 1903, most locals discounted it as a newspaper hoax. At first young Chambers accepted the adults' explanation, however, new accounts of longer flights and more innovations finally convinced him and others in LaHarpe that man had in fact conquered the air. The following year, the ten-year-old pored through

¹⁴ Telephone conversation between the author and Daniel Chambers, George's grandson and Reed's great-nephew, April 11, 2002.

copies of *Scientific American*, learning all he could about the Wrights' flight, aerodynamics, and the science that had made man's ascent possible. He incorporated as much of this technological information as he could into his own designs. Consequently, they became even more innovative. He once thought he had invented a helicopter.¹⁵ He had a tinsmith cut some metal vanes, similar to what one might find on an Oriental fan, then mounted these onto a spring-wound clockwork in hopes that the vanes would spin sufficiently fast to life the contraption off the ground. Although he was heartily disappointed when his ingenious apparatus merely spun on his workbench, he did not give up hope. He continued to study every article he could find on flying.

When not in school or working on his models and experiments, Chambers found time to enjoy trapping, one of his favorite boyhood activities. He probably learned the art while still living in Onaga, carrying those skills with him to LaHarpe. By the time he was twelve, this enterprising young man was earning as much as thirty dollars during each of the winter months, trapping mink, skunk, possum, and the occasional fox, and selling the skins via mail to a firm in St. Louis. Not content with these returns, he also tried to turn a profit by selling skunk oil to perfume companies.

The boy had read in a scientific magazine about ambergris, a secretion from sperm whale intestines that was used by perfume manufacturers as a fixant to preserve the fragrance of perfumes. Realizing that there were few fragrances in nature harder to wash off than skunk scent, he reasoned he could save the mercaptan, which he called "skunk juice," from the skunks he trapped and possibly sell it to a perfume manufacturer. He thought that they would have a way of distilling it to eliminate the fetid odor of the skunk, replacing it with the scent of their perfume. Chambers found an empty, one-pint

¹⁵ Chambers, *Reminiscences*, 2.

peroxide jar, learned how to milk the skunk juice from his prey, and set to work collecting what he hoped would one day be his fortune.

For years Chambers continued to save his skunk juice in the jar, adding to it whenever he could. When the jar was nearly full, he wrote to the fur company with which he had been dealing, explaining his perfume-fixant idea and asking about any industrial developments along those lines. He also asked if there might be an alternative market for his unusual product. The boy waited eagerly for the reply, believing, as he said later, that he “had found a way to make a million dollars.”¹⁶

The reply was not long in coming. The fur company definitely did not want what Chambers was selling, begging him, “Please don’t send it!”¹⁷ Although disappointed, the boy decided not to get rid of his unusual commodity, reasoning that one never knew when a jar of skunk juice would come in handy. Besides, it was not something one could throw in the trash bin or the burn pile. Disposal was inevitably more complicated than simply keeping the jar intact. Young Chambers decided he would find a use for it yet.¹⁸

Although his mother had always supported her son’s scientific curiosity, it is probable the boy’s efforts might have been stifled had he remained on the farm in Onaga. Burdensome chores, his father’s constant presence, less money, and the absence of technological models from which to draw inspiration might have conspired to force young Chambers into a more traditional lifestyle. In LaHarpe, with his father away working at the mills, more spare time, and the constant presence of fantastic machines and modern conveniences, Chambers found an atmosphere conducive to his scientific pursuits. Unfortunately, the discipline he had developed to keep him on track in his

¹⁶ Chambers *Reminiscences*, 4.

¹⁷ *Ibid.*, 4.

¹⁸ *Ibid.*, 3-4.

personal pursuits did not yet extend to include his behavior. His rebellious nature and stubbornness kept him in trouble, both with his father and with other authority figures.

In the spring of 1910, when he was fifteen and a junior at LaHarpe High School, Chambers was called in to see the superintendent of schools, Professor Knott, for his atrocious spelling. Knott took exception to the spelling in exams submitted by the boy and a close friend – a boy named Pete. Knott ordered the two boys to stay after school to practice spelling.¹⁹ Later, in the superintendent's office, the two boys began to argue over whether the office window should be open or closed. Knott tolerated the bickering for a short while then grabbed Pete by the back of his neck, presumably to quiet him. Pete reacted by hitting his teacher and a fight ensued. Chambers jumped in. The three went tumbling into the physics laboratory where, Chambers later recalled, "considerable equipment" was smashed. When the fight was over, the two boys were expelled on the spot.²⁰

Upset by their treatment, the boys decided to get even. They went to Chambers' house and got his bottle of skunk juice, then went back to the school that night to exact their revenge. They sprinkled the foul-smelling liquid throughout the building. The next morning, they went down to the schoolhouse to see what had happened. The school was closed and a team of men was working with deodorant, soap, and bleach, trying to remove the smell. Chambers and his friend were ecstatic over their successful revenge.

When news of the expulsion and school closing reached Sherman, he knew immediately what had happened. As Chambers later recalled, his father, "gave me a

¹⁹ Pete's last name has been lost to time. The LaHarpe school records, on file in the Allen County Courthouse in Iola, are incomplete. No class rosters remain reflecting Reed's time in school. Although many of Reed Chambers' associates and his daughter were familiar with the story, none of them recalled having known Pete's last name.

²⁰ Chambers *Reminiscences*, 3.

good shellacking, which I certainly deserved.” Keenly aware that his school days were now behind him, and determined to distance himself from his father, young Chambers decided to leave home.²¹

Chambers left home with all the money he had and as much food and clothing as he could carry. He got as far as western Kansas before he realized he would have to start working in order to go further. Eventually he hoped to attend school at Colorado College, in Colorado Springs. In the meantime, however, he needed work in order to survive. He took a job helping bring in the spring harvest from fields in western Kansas. It was hard work, but he was able to eat, had a place to sleep, and was amassing money for college. When the harvest was over, Chambers moved on to Colorado Springs.

Although he had carefully saved all the money he earned in the harvest fields, the cost of living in Colorado Springs quickly consumed all his savings. He would not be able to enter college in the fall of 1910, but would instead have to go back to work. An energetic and resourceful young man, he found work as an usher in a movie theater,

The theater probably appealed to Chambers because of his penchant for technology. It had been quite a thrill to see the movies at Electric Park, now he would get to see movies all of the time, while at the same time earning a wage. Since he only earned about three-and-a-half dollars a week – the same amount he was paying for rent – he needed to find an additional source of funds. He took a second job at a cafeteria, working as a busboy. Because he could also eat for free while working at the restaurant, he was able to resume saving money for school. Although he was saving for his future, this was a difficult time for Chambers. He was working from five o’clock in the morning until eleven o’clock at night.

²¹ Ibid., 5.



Fig. 2. Chambers (rear) with two friends at Colorado Springs, Colorado, 1911.²²

Despite his grueling schedule, Chambers made time to keep current on events in aviation. When it was announced that members of the Wrights' Aerial Demonstration Team would put on an exhibition in Colorado Springs, the young flying enthusiast was enthralled. The two pilots for this Team, Philip O. Parmalee and Cliff Turpin, were slated to arrive in early fall of 1910.²³

After waiting for weeks, the day of the demonstration finally arrived. Having finished the lunch dishes, Chambers went to see his boss in the restaurant to explain that he wanted to go see the airplanes. The boss said that would be fine, so long as his busboy was back for dinner. Knowing a thing or two about flying and realizing that the winds were too strong that afternoon for the fragile Wright flyers, Chambers explained that the planes would have to wait for the winds to die down and might not fly until that evening. He would not be able to make it back in time for the dinner rush. The boss answered

²² From Winnie Chambers' photo album. Chambers stands at the top right. Used courtesy of Daniel Chambers and Sharon Turner. The album was preserved by Daniel Chambers, Reed's great-nephew, the grandson of George, Reed's brother. It is currently in the possession of Sharon Turner, Reed Chambers' granddaughter.

²³ From his *Reminiscences*, it appears his expulsion, his work in the wheat fields, his arrival in Colorado Springs, and the Aerial Demonstration all took place in 1910. He recalled that Parmalee and Turpin came to town "just past my 16th birthday," which would have made it early fall of 1910. (Chambers *Reminiscences*, 6.)

him, clearly stating his position: "You either get back here, or you're fired." That piqued Chambers' stubborn nature. He went to the cashier, who was the boss's sister, told her he had just been fired, got his wages, and left for the air show.²⁴

Despite his lofty expectations, Chambers' first glimpse of man's conquest of the air was something of a disappointment. He and a mass of people each paid a one-dollar admission to gather in a large, open field just outside of town to watch the spectacle. As the newly unemployed busboy had surmised, the wind was far too strong for the fragile planes, so the crowd stood milling around for hours, waiting for the wind to diminish. At one end of the field, Turpin, Parmalee and their staff of mechanics poured over the two flying machines, tightening wires, adjusting bolts, and occasionally stopping to assess the wind, shaking their heads and wiping their brows to let the people know they were as disappointed by the delay as their audience. As they worked, members of the crowd ventured forward in hopes of speaking to one of the two airmen. Chambers moved through the crowds and tried to talk to the pilots, but they did not appear to be interested in talking to a mere boy. Instead of the airmen, the young aviation enthusiast struck up conversations with the mechanical crew. Although he was not able to climb on either machine, he was able to examine them closely and to have his questions answered by the expert mechanics on duty.

After hours of waiting, it was determined the wind had died sufficiently to attempt a flight. One of the two pilots boarded his plane. The crew started his engines and he launched into the diminished winds. The plane lurched as it gained altitude, and then rolled slightly, dipping its wing to the crowd, and circling slowly. Chambers was spellbound. The sputtering flying machine seemed like a magic carpet.

²⁴ Ibid., 6.

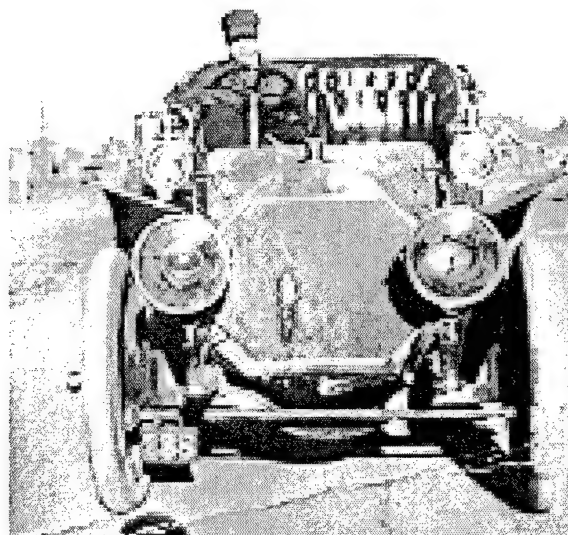
His reverie was short lived. As the flimsy machine completed its first revolution around the field, it lurched back into a level position, and then nosed down. The pilot was coming in for a landing; the show was over. As disappointed as he was with the length of the demonstration, not to mention the fact that only one of the planes had even attempted a flight, Chambers nevertheless felt that the afternoon had been worth all his trouble. He had seen a man fly and, because of his time with the mechanics, had gained valuable insights into the science behind the machinery involved. Further, he been permitted a glimpse into his own future. Regardless of what lay immediately ahead for him, from this point on Chambers seemed sure that aviation would be his ultimate destiny.²⁵

Walking out on the busboy job was only a minor inconvenience to the determined young Reed Chambers. An enterprising, confident young man, he quickly landed a new job, as a chauffeur for a local real estate company. He had explained to the boss that he had driven his father's car in LaHarpe, which was probably true, although he undoubtedly had driven it very little. Nevertheless, Chambers bragged that he was an exceptional driver, which fortunately turned out to be the case. He was not yet flying, but behind the wheel of an automobile, he remained connected to technology – master of a machine – and that seemed sufficient for the moment.

His job was to drive potential customers and agents to a new real estate development southeast of Colorado Springs, very near to where the city's municipal airport is located today. When some people he had known from LaHarpe visited, Chambers got permission to escort them to the development himself. When they bought lots in the development, Chambers' status in the firm grew. His disarming good looks, his

²⁵ Chambers, *Interview*, 2, and Chambers, *Reminiscences*, 10.

determination, and his calm confidence when speaking made him a natural salesman. Reasonably assured he was going to be able to survive on his own, he began corresponding with his mother. It appears there was no lingering animosity over his having left the family home although the father and son remained distant for the remainder of Sherman Chambers' life.



*Fig. 3. Chambers as chauffeur, Colorado Springs, Colorado, 1911.*²⁶

As winter put an end to the selling season in Colorado Springs, his boss approached him with an offer to join the agents working on a real estate development in Florida. They would go down to Florida each winter to sell lots to people eager to escape the cold winters of the northern states. Having no other prospects, Chambers accepted the job and left for Vero Beach, on the Atlantic coast about 125 miles north of Miami.

In Florida, the fledgling Realtor joined the Indian River Sales Company, now as both driver and agent. Again he impressed his superiors with his initiative and salesmanship. He remained in Florida throughout the winter of 1910-1911, earning a reputation for himself as an able salesman. Chambers liked Florida, both for its mild climate and its

²⁶ From Winnie Chambers' photo album.



*Fig. 4. Chambers in Florida.*²⁷

economic opportunities. It appeared to the young salesman that the state was growing both in terms of population and wealth. This perception would help guide his decision to move back to Florida years later, to launch a business venture of his own. When the selling season ended, late in the spring of 1911, and the rest of the real estate team was heading back to Colorado Springs, Chambers opted to quit. He explained that he always liked Memphis and wanted to go there.

There is no record of what attracted the young man to the Mississippi River port, but it is likely that in Memphis, he saw opportunities for himself in which he could capitalize on his skills as a salesman in an urban landscape that he found both new and exciting. Chambers had neither connections nor prospects when he got off the train in Memphis that spring. Carrying everything he owned, he simply walked the streets taking in the sights. Undoubtedly he was impressed by the tall buildings, huge bridges, and modern conveniences he found in Memphis, and felt it a suitable place to live.

²⁷ From Winnie Chambers' photo album

At 340 Monroe Avenue, Chambers came upon a newly constructed showroom. He went inside and met Thomas H. Smart, president of the Memphis Overland Company. Smart was going to sell Willy's Overlands in the region. Citing his experience as both a salesman and a chauffeur, Chambers quickly convinced Smart to give him a chance. Smart gave the determined young seventeen-year-old a salary and a commission on his sales.²⁸ Undoubtedly the newly arrived Chambers was pleased to find employment so quickly, especially since it meant he would be working around machines again.

Smart was probably just as pleased: Chambers was a natural salesman. Within a short time the young man was making as much as \$500 some months, a staggering amount for that time. Only two Willy's salesmen in the entire United States surpassed Chambers' sales volume. He stayed with Smart for five years, delighted with the pay, the work, and the contacts he was making.

Since only the wealthier people in the region could afford the luxury of a private motorcar, Chambers met and befriended many of the social elite of Memphis. He also came to know wealthy people from West Tennessee, Northern Mississippi, and Arkansas; the sales territory for which he was responsible. Many of the young men he met were members of the Chickasaw Guards, a social group prominent in Memphis.

It is difficult to discern the origins of Chambers' desire for social status. His family had not been socially prominent, but had remained decidedly middle class throughout his upbringing. Perhaps he felt some shame in his own middle-class background.²⁹

²⁸ *Memphis Street Guide*, 1914, page 963 of the general listings, and page 4 of the "Automobile Department."

²⁹ This might help explain Chambers' relation with his family. Sherman remained middle class throughout his life and, according to Reed Chambers' daughter, Reed disliked his brother, Fred who also remained decidedly middle class. As his daughter recalled, "Daddy definitely didn't like [Fred] because he called him ... a plumber, and he played bridge" (Ackerly, *Interview*, 8).

Although it was never a stated objective in any of his communications, it is obvious that Chambers worked throughout his life to earn social approval. He did this in a number of ways. Although his reading was undoubtedly fueled by an intensely curious nature, it is also true that his ability to converse intelligently on a wide range of topics more than compensated for his incomplete formal education and aided in his acceptance. It also served to hide his limited schooling. Another way in which Chambers strove for acceptance was through expertise. In every situation, he tried to learn as much as he could in order to become a recognized expert and seemed to enjoy having others come to him for his advice. A third tack he would later employ was wealth. Although not consumed by a desire for wealth, Chambers remained financially conservative all his life, while at the same time taking full advantage of the opportunities and access that his wealth permitted him. A fourth route to social acceptance for Chambers was affiliation. He worked hard to associate with important, powerful people. One can see this tendency not just in his efforts to join the Chickasaw Guards, but also later in his life when he reached out to rich and powerful people in the course of his business pursuits. The fact



*Fig. 5. In Memphis, Chambers could afford stylish clothing.*³⁰

³⁰ From Winnie Chambers' photo album.

that he was completely unhindered by any trace of shyness only made it easier for Chambers to make friends. He was also aided by his appearance.

Naturally handsome, Chambers was very careful about how he presented himself, always insisting on very stylish, tailored clothing. His concern with his appearance may have been one of the factors that attracted the young man to wearing a military uniform and participating in public drills. Lastly, Chambers cultivated a reputation in each of his pursuits that aided him in being accepted socially. Whether as a salesman, a fighting ace, a company president, or even in his personal pursuits – such as gardening or swimming – he sought to be the best he could be. This tendency generated within Chambers an extremely competitive nature that was sometimes difficult for the people with whom he dealt. Despite this, he was a welcome addition to Memphis' Chickasaw Guards.

The unit was created as a citizens' militia in 1874, following incidents of racial violence in neighboring Mississippi and Arkansas. The Guards' stated purpose was "the protection of the law-abiding citizens of Memphis."³¹ As trouble abated over the years, the Guard became a combination quasi-military outfit and drill team. Like Onaga's Custer Post of the Grand Army of the Republic, an outfit young Chambers had seen as a boy, when his grandfather was an active member, the Chickasaw Guards boasted a drill team that took part in local celebrations and parades, as well as competing against other such units from around the country.³² It was both an honor and a mark of social standing to become a Guard. Chambers wanted to join, and in 1915 got his wish. After several years of selling cars for Willy's Overlands and befriending the elite of Memphis society,

³¹ Arthur Robert Taylor, *A Brief History of the Chickasaw Guards* (Lippincott Publishing Co., Memphis Tenn 1914), 1.

³² Shields McIlwaine, *Memphis, Down in Dixie* (E.P Dutton and Company, Inc., New York, 1948), 174.

the twenty-one-year-old car salesman was asked to join the Guards. It was an ominous time.

Although war had already broken out in Europe, in the summer of 1914, Americans were generally content to ignore the conflict, preferring instead to focus on business and political concerns within their own hemisphere. With the sinking of the *Lusitania* on May 7th 1915, however, American attitudes began to change. Memphis was no different. After *Lusitania*, Memphis papers ran current war news on the front page of every issue.³³

In late 1915 or early 1916, a Regular Army officer with a tempting proposition visited the Guards. The major explained that regardless of what Wilson was saying to the contrary, that it was only a matter of time before the United States joined the war. If the Chickasaws would join the National Guard en masse, the major promised, the government would furnish them with Army uniforms, real weapons, and even provide them drill and field training. This was probably Chambers' first direct contact with the federal government. The Army officer was making an offer that was too good to decline. Anxious for the chance to drill with real weapons and wear official Army uniforms, and reflecting the patriotic spirit of their day, Chambers and his fellow Chickasaw Guards voted in favor of joining the National Guard.

Shortly thereafter, they received the promised Army uniforms and firearms, and began drilling. Everyone thought they looked splendid. Chambers and his fellow Guards were particularly proud of their new attire. In spring, they joined other Tennessee National Guard units at the training camp in Nashville. While there, Chambers met and befriended Paul Rye, son of the then-Governor of Tennessee. He was even invited out to

³³ Robert A. Sigafos, *Cotton Row to Beale Street, A Business History of Memphis* (Memphis State University Press, 1979), 132

the family home on a couple of occasions, providing Chambers an opportunity to introduce himself to the Governor. It was fortunate he had this opportunity, as this contact would serve him well in an unusual request the following year.

By the summer of 1916, Americans were increasingly aligning themselves with the Allied cause against the Central Powers. With war fervor rampant, the men of the Chickasaw Guard had every reason to believe they would soon be leaving Memphis to join their British and French allies in Europe. In a later interview, however, Chambers revealed that he and his companions were “shocked” when they were called into active service, explaining, “we were not that smart.”³⁴ They had obviously failed to grasp the significance of the major’s warning that America might soon go to war, as well as the newspapers’ increased coverage of both the European crisis and Villa’s Mexican border raids. They were now being asked to pay the price for their official Army uniforms and rifles.

In early June 1916, Chambers’ Infantry Regiment was summoned to the mobilization camp in Nashville, where they joined other companies from across the state for concentrated training, preparing to counter the threat posed by Pancho Villa.³⁵ After three months of training, on September 15th, the First Tennessee Infantry Regiment boarded trains for Texas.³⁶ Chambers believed he was going to war.

Four days later, the Regiment arrived at Eagle Pass, Texas, where it was placed in line alongside the First and Fifth Maryland Regiments.³⁷ Located on the Rio Grande

³⁴ Chambers, *Interview*, 2.

³⁵ Chambers, *Interview*, 2.

³⁶ Harry Berry, Report of the Regimental Commander (Berry), First Tennessee Infantry, Nashville, Tennessee, March 31, 1917, excerpted in Bruce C. Richert, *History of the Chickasaw Guards, Memphis, Tennessee, 1874-1953* (Memphis Room, Cossitt Library, Memphis, Tennessee, undated), 5.

³⁷ William J. Bacon, *History of the Fifty-Fifth Field Artillery Brigade, AEF* (Benson Printing Company, Nashville, Tennessee, 1920), excerpted in Richert, 3.

River, Eagle Pass lies about one hundred miles south-southwest of San Antonio, between Laredo and Del Rio. It is an arid region, known for its extreme daytime heat.

For their first three weeks, Chambers and the other members of his regiment endured a program of intensive field training designed to heighten their combat abilities while helping them cope with operations in their new environment. After this, the American forces at Eagle Pass participated in a ten days of field maneuvers. These completed, the American forces settled down to wait and see if Villa would test their mettle.

Unlike some of his Chickasaw Guard compatriots from Memphis, whom he characterized merely as “social guys,” Chambers took his duties very seriously. When not on watch or drilling, he pored over Army regulations, memorizing appropriate passages, preparing himself for increased responsibility, and transforming himself into the recognized expert. Within a very short time his studies paid off: he was promoted again, arriving on the Colonel’s staff as the Regimental Color Sergeant.³⁸

With no war to fight and little else to do after his initial training was completed, Chambers filled his day with reading. In addition to Army regulations, he continued to read his hometown newspapers as well as anything he could find on aviation. From newspapers, he learned the Army’s First Aero Squadron, under Benjamin Foulois, was working with General John Pershing, providing aerial reconnaissance to aid in locating Villa. The young Guardsman was torn. He desperately wanted to join Foulois’ unit, but that would mean leaving the Guard and risking not getting picked for flying duties. In these uncertain times, someone just joining the Regular Army could end up almost anywhere. Also, Chambers wanted to stay with his buddies on the line, in case Villa struck north again. He must have weighed carefully his slim chance of seeing combat

³⁸ Chambers, *Interview*, 2.

against his slimmer chance of making it into the First Aero Squadron before the whole show was over. Wavering between his desires to fight and to fly, it appeared that as long as he was stuck at Eagle Pass he would do neither. Chambers was an impatient man and chafed for some sort of action. He would not have long to wait.



Fig 6. Chambers and a friend at Eagle Pass, Texas.³⁹

In October, he learned that Congress had passed a bill permitting two National Guard officers from each state to attend flight training at a new flying school located in San Diego, California. Chambers was encouraged by the announcement, but knew he would have to become an officer to take advantage of the opportunity. He devised a plan.

As the Regimental Color Sergeant, Chambers knew that there was a vacancy for a Battalion Adjutant, a second lieutenant's position. If he could get it, he would be eligible for flight training. He decided to approach his commander, Colonel Harry S. Berry, and reveal his ambition. Berry listened intently as Chambers described his ambition to fly, then offered something of a deal. If the Color Sergeant could take and pass the physical

³⁹ From the personal collection of Polly Ackerly. Chambers stands on the right. The identify of the other man pictured is unknown.

and mental examinations required to qualify for flight training, and secure an appointment to the San Diego flying school, Berry would solicit the governor's approval for an immediate promotion so that Reed could meet the rank requirement. Chambers was elated.

He contacted the appropriate authorities, to find out what the tests would entail and when and where he might take them. He learned that the tests were offered at Fort Sam Houston, in San Antonio. He would be given a physical examination to ensure that he was healthy and not prone to dizziness or airsickness, and he would take written tests on a variety of flight-related topics, most notably mathematics. Chambers had always excelled in math, but wanted to leave nothing to chance. He secured as many math books as he could find and studied rigorously for his upcoming challenge.

A couple of weeks later, he was ordered to Fort Sam Houston where he took and passed his tests. Afterwards, he was taken out onto a field, adjacent to the Fort, where he observed Eddie Stinson land in a brand new JN-4, a "Jenny." Stinson was a civilian instructor pilot and the brother of famed aviatrix Katharine Stinson.⁴⁰

Stinson had come to Fort Sam Houston to train pilots from the 1st Aero Squadron on this new airframe. He was taking a small group of pilots up, one at a time, to show them the aircraft. The officer who had accompanied Reed onto the field ran up to Stinson after he landed. The two of them shouted over the noise of the engine, then pilot and the officer beckoned for Reed to come over. Reed ran toward the plane. Stinson handed Reed a leather helmet and goggles, and motioned for him to get into the plane. Reed clamored into the front cockpit as Stinson settled into the rear – the instructor's position.

⁴⁰ Lieutenant H. D. Kroll, *Kelly Field and the Great War* (Press of San Antonio Printing Company, Texas, 1919), 22.

When Stinson was sure Reed was belted in, he opened the throttle, started the plane down the grassy field, then lifted off.

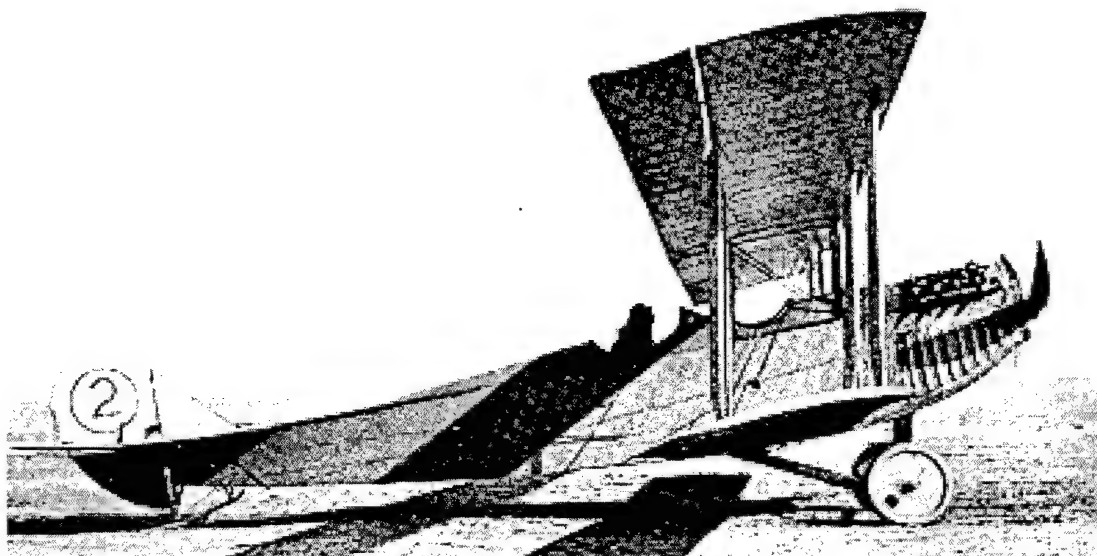


Fig. 7. The Curtiss JN "Jenny" biplace trainer.⁴¹

Stinson put the candidate pilot through a number of jolts, tight turns, and steep angles, but noted no fear on Chambers' face. The fledgling airman was exuberant. Not only did he not get airsick or dizzy, Chambers found he loved the thrill of flying. They landed back at the field and Chambers ran to the testing center to get written proof he had passed the tests; proof he would need for Colonel Berry to contact the Governor about his commission.

Immensely satisfied with his good fortune, Chambers returned to Eagle Pass and presented himself to Colonel Berry. The commander was as good as his word, taking the Chambers' paperwork so that he could write to the governor. Content, at least for the moment, Chambers retired to his quarters to wait on his appointment to flying school.

Days turned into weeks, but there was no word on the appointment. Chambers was beside himself with anticipation. He described this period later: "I was ready to burst ...

⁴¹ *Jane's Fighting Aircraft of World War I*, Military Press, New York (1990), 234

every day seemed like a month to me.”⁴² After six weeks, he could wait no longer. As a result of his inquiries, he learned that although Congress had passed the bill to permit National Guardsmen to fly, they had failed to allocate any money. Without money to fund the training, there essentially was no program. Chambers was devastated.

In December, he saw an item in the Memphis *Commercial Appeal* that caught his eye. The Aviation Section of the Army Signal Corps was opening a flight-training center right outside his adopted hometown, at the North Memphis Driving Park.⁴³ Once again Chambers’ spirits soared at the prospect of becoming a flyer and again he turned to Colonel Berry for help.

Berry patiently listened to his Color Sergeant’s latest scheme to become a pilot. Chambers wanted a furlough back to Memphis in order to find a way into the training school there. Again Berry weighed the advantages of allowing the determined young man to follow his dreams. Since enemy activity along the border had been quieted, Berry decided to let Chambers go home on leave and give the Army school a try.

Back in Memphis, Chambers donned a nice suit and headed to the North Memphis Driving Park.⁴⁴ He never commented on his decision to wear civilian clothes on this visit, but it is likely he thought he might impress the commander more in the guise of a dapper young socialite than as a National Guard color Sergeant on leave.

At the field, he asked to see the base commander and was led to the office of the Commanding Officer, Captain Joe Morrow. Chambers explained his situation,

⁴² Chambers *Reminiscences*, 11.

⁴³ The Memphis field was opened in preparation for war. Prior to this, however, the Signal Corps was operating only three fields in the United States: Hazelhurst Field in New York, Rockwell Field outside San Diego, and Essington Field, in Pennsylvania, which was established to train National Guard units. (James J. Hudson, *Hostile Skies, A Combat History of the American Air Service in World War I* (Syracuse University Press, Syracuse, New York, 1968), 26.)

⁴⁴ As he was on leave, he was not required to appear in uniform.

presenting the papers that confirmed his passing performance at Fort Sam Houston. During the conversation, Chambers casually let it be known that he was a very popular man in Memphis, and knew all of the best places, all of the best families, and all of the best single women in the area. Further, he added, most of the eligible young men from the area were currently suffering in the heat and dust of Southern Texas. Whether Morrow was convinced by Chambers' boldness and enthusiasm or by the offer to reveal the very best of Memphis is unknown. Whatever his motivation, Morrow was hooked. He told Chambers that they would take him into the Signal Enlisted Reserve Corps and start flight training immediately, but first he would have to get released from the National Guard. Reed was elated. He invited Morrow and members of his staff on a jaunt into Memphis that evening.⁴⁵ The three Army officers, Morrow, Ralph Royce, and Art Christie, were overjoyed with their Memphis outing and all the more anxious to bring this talented and resourceful young man into their unit.⁴⁶

The Army would need such talent. While Chambers and his new friends were enjoying the nightlife of Memphis, President Wilson was preparing his nation for conflict. On the evening of April 2, 1917, Wilson went before Congress to ask for a declaration of war.

For Chambers, however, Europe was far away. He was concerned with his own situation at that moment. He realized that, despite his newfound friends' desire to have him in their unit, he would be sent back to Eagle Pass if he could not secure his release from the National Guard very soon. There was only one man in the state with the power to grant such a request, Governor Rye in Nashville. Chambers boarded a train for

⁴⁵ Ibid., 2.

⁴⁶ Ibid., 2-3.

Nashville, convinced he would be able to persuade the father of his National Guard buddy, Paul Rye, to grant his request.

Chambers' friendship with the governor's son probably opened the door for the unscheduled interview with the Governor that afternoon. The persuasive argument presented to Governor Rye, however, was pure Chambers. His talents as a salesman never served him better. He found he had been assisted in his pursuit of release by Colonel Berry, his loyal and supportive commander still sweating on the Texas border. As he had promised, Berry had written the Governor on Chambers' behalf. Governor Rye was convinced. He called on the Adjutant General of the Tennessee National Guard, who entered the office momentarily. The two men eyed the young, blonde Guardsman carefully. "If I grant your request," the Governor asked slowly, "will you swear that you will immediately go and join the Regular Army?" With war in the offing, the two state leaders did not want Chambers slipping out of military service. "I swear it," Chambers answered. They were giving him exactly what he wanted. With his discharge in hand, and jubilant over finally getting his chance to fly, he hurried back on the night train to Memphis.⁴⁷

Chambers reached Memphis the following morning, April 6th, and went straight to the North Memphis Driving Park to present his discharge to Captain Morrow. Morrow was overjoyed at the news and swore Chambers into the Aviation Section of the Signal Enlisted Reserve Corps as a sergeant. The salary for newly enlisted Signal Corps privates was thirty dollars per month. Along with this, they were to receive government quarters, uniforms, and sixty cents a day for meals.⁴⁸ As a sergeant, however, Chambers

⁴⁷ Chambers Interview, 3 and Chambers *Reminiscences*, 12

⁴⁸ Hudson, *Hostile Skies*, 28.

earned seventy-eight dollars a month.⁴⁹ It was a far cry from the five hundred dollars a month he had made selling cars for Smart, but he was satisfied. He was finally on the road to realizing his ambition – he was going to fly – and at that moment, little else mattered.

That same afternoon, April 6th, Congress answered Wilson's call; the United States declared war on Germany. With only two fully operational flying fields, twenty-six fully qualified officers, and fifty-five aircraft, none of which were combat capable, the Aviation Section of the Signal Corps was hardly ready for the challenge.⁵⁰ In the months ahead the nation would need as many qualified pilots as the Signal Corps could train. Pressure would soon mount on the fledgling air arm to produce results.⁵¹

At that time, however, the unit at the Memphis Driving Park was far from ready to help meet America's wartime challenge. The training program was a haphazard collection of instructional techniques. Cadets received classroom instruction in a variety of subjects while simultaneously learning engine mechanics in the workshops and receiving flight training in the aircraft. In ground school, Chambers and his classmates studied aeronautics, meteorology, and astronomy. They also took classes on the

⁴⁹ *The Reminiscences of Charles D'Olive*, June 16, 1969, in the Oral History Collection of Columbia University, hereafter referred to as *D'Olive Reminiscences*. Conducted by an unknown interviewer as part of *The American Heritage History of Flight* project. Transcripts are on file at Columbia University, New York, New York, and at the AFHRA, pp. 8-9. Like Reed, Charles D'Olive joined the Signal Corps in Memphis. After being accepted, D'Olive explained he could not live on the \$30 per month provided, so the officers agreed to promote him, so he would earn the \$78-per-month rate of a sergeant.

⁵⁰ Hudson, *Hostile Skies*, 3.

⁵¹ In fairness, the responsibility for the Army's failure to prepare its air arm did not rest with the service alone. Congress had repeatedly failed to appropriate money for military aviation in the months leading up to America's entry into the World War. Even after the declaration was made, Congressional allocations for aviation seemed to support the spokesmen for the traditional Army, who saw the airplane as just a "noisy toy." Allocations of \$10.8 million in May and \$43.4 million in June underscored the minor role that many assumed aviation would play in the upcoming fight. The combined total of these two allocations, \$54.2 million, was only 1.55% of the William Gibbs McAdoo's estimated cost of the war. McAdoo, Secretary of the Treasury, provided this estimate to Congress in April of 1917. The estimate did not include an additional \$3 billion in loans to the allies. (David M. Kennedy, *Over Here, The First World War and American Society* (Oxford University Press, New York, 1980), 109.

operation and maintenance of aircraft engines and machine guns.⁵² In the workshops, Chambers and his fellow students got hands-on training as mechanics, assembling and disassembling motors. On the airfield they learned about aircraft controls and maneuvering, lessons they put to practice whenever they were given a chance to fly. They did not get to fly very often. The six civilian flying instructors' efforts were mainly directed at familiarizing the three assigned Army officers (Chambers' friends Morrow, Royce, and Christie) with the JN-4 "Jenny" airframe.⁵³

These Jennies were the JN-4D design, with the Curtiss OX-5 motor, eight-cylinder engine, capable of producing about 90 horsepower and propelling the plane to a speed of about seventy-five miles an hour. Designed as a trainer, the Jenny was slow and sluggish in the sky, but had enough wing surface area (352 square feet) to allow long glide paths should its engine fail. In these early days of flying, the American schools did not yet grasp the needs for aerobatics. The underpowered OX-5 engines would have made such maneuvers difficult anyway. Later, when aerial combat was better understood, the Jennies were fitted with 150-horsepower Hispano-Suiza motors. Then pilots learned another weakness of their Jennies; the fabric would tear away from their wings at the top of a loop. Chambers would not have to deal with this development. Jennies would remain underpowered until long after he reached France.⁵⁴

He took his ground-school training under the tutelage of Mr. Flickinger, a Massachusetts Institute of Technology graduate who later served as a Colonel in the Air

⁵² Hudson, 28.

⁵³ Chambers *Reminiscences*, 13 and Chambers Interview, 3. Ralph Royce began his career as an infantry officer. He qualified as a pilot in 1916 and was assigned to the 1st Aero Squadron, under Foulois, when it served Pershing on the Mexican border. Later, Royce was put in command of the 1st Aero Squadron when it went overseas (James J. Cooke, *The U.S. Air Service in the Great War, 1917-1919* (Praeger, Westport, Connecticut, 1996), 29).

⁵⁴ *Ibid.*, 235.

Corps.⁵⁵ Chambers learned the art and science of mechanics from another sergeant, I. W. “Shorty” Schroeder. Schroeder had served as a mechanic for many notable early fliers, including Mickie McGuire, who had toured as part of the Wright Brothers’ aerial demonstration team. He had amassed a terrific amount of knowledge working with the Wright team before turning to the Army for employment. Schroeder stayed with the Army for years, rising to the rank of major.⁵⁶

Mechanic training was physically exhausting. Chambers was assigned to a team of students ordered to overhaul an OX-5 engine. As the new man, his first job was to wash the disassembled parts. As he progressed through the training, however, he took on tasks of increased difficulty until, as a sort of final exam, he led a team of students through an entire engine overhaul.⁵⁷ Despite the physical demands of the tasks and because of his long association with machines, Chambers grasped the mechanical aspects of his training very quickly.

For flight training, Chambers was assigned to the civilian instructor J. D. Hill. Although Hill was as busy training the Army officers as Chambers was with the ground and mechanics’ training, the two found opportunities to fly. Chambers later estimated that they had taken some eight to ten flights together, for a total of about two hours of flying time, before the entire unit was ordered to move to Ashburn, Illinois, just south of Chicago. They folded up their tents, crated their aircraft, and entrained for northern Illinois.

Ashburn was unsuitable for extensive flying. The field was a quagmire when it rained, and it rained often. Even though flight opportunities were rare, Chambers – still

⁵⁵ Flickinger’s first name unavailable.

⁵⁶ Chambers *Reminiscences*, 13 and Chambers Interview, 3.

⁵⁷ Chambers *Reminiscences*, 13.

flying under J. D. Hill –managed to complete his initial flight-training program and solo for the first time. His solo was mercifully uneventful. As he recalled later, “I was probably what you’d call a natural flier.”⁵⁸ After soloing, he began to work through his Reserve Military Aviator (RMA) qualification tests.⁵⁹ Chambers was under a lot of pressure going into the RMA tests. Regardless of past performance or experience levels, any student who failed any of the RMA tests was discharged from the flying program entirely. This policy left little room for error.⁶⁰

The RMA tests consisted of a number of separate tasks. Henry Woodhouse, in his *Textbook of Military Aeronautics*, listed the following requirements for the RMA test:

1. Climb out of a field 2,000 feet square and attain 500 feet altitude, keeping all parts of the machine inside the square during climb.
2. Glides at normal angle, with motor throttled. Spirals to right and left. Change of direction in gliding.
3. At 1,000 feet cut off motor and land within 200 feet of a previously designated point.
4. Land over an assumed obstacle 10 feet high and come to rest within 1,500 feet of the same.
5. Cross-country triangular flight of 30 miles, passing over two previously designated points. Minimum altitude 2,500 feet.
6. Straight-away cross-country flight of 30 miles. Landing to be made at a designated destination. Both outward and return flights at minimum altitude of 2,500 feet.
7. Fly for 45 minutes at an altitude of 4,000 feet.⁶¹

The cross-country flying tasks, numbers 5 and 6 above, tested the novice pilots’ navigational skills as much as their piloting abilities. The tasks were difficult, given the state of aviation instruments at that time. Guy Stone, a pilot who later directed cross-

⁵⁸ Ibid., 15.

⁵⁹ The Reserve Military Aviator designation distinguished the wartime flyers from the original twenty-four Military Aviators who had begun aerial operations in 1913. The first thirteen of these original aviators, in order of seniority, were Charles DeF. Chandler, Frank P. Lahm, Benjamin D. Foulois, P. W. Beck, R. C. Kirtland, Henry H. Arnold, Thomas DeWitt Milling, H. Geiger, S. H. McLeary, Lewis H. Brereton, J. D. Park, and L. E. Goodier. The distinction continued until a handful of wartime RMAs were awarded Military Aviator (MA) status at the end of World War I. Even after this move, however, there was some resentment between the original MAs and the latter-day MAs. (Burke Davis, *The Billy Mitchell Affair*, Random House, New York (1967), 55.

⁶⁰ Rebecca Hancock Cameron, *Training to Fly: Military Flight Training 1907-1945*, Air Force History and Museums Program (1999), 125.

⁶¹ Henry Woodhouse, *Textbook of Military Aeronautics*, New York: Century Co., 1918, 189, quoted in Hudson, 29-30.

country training for American pilots in Europe, explained that the compasses of the day did not reflect true north and south. They were always off.⁶² The altimeters, designed to show a pilot's altitude, were even more unreliable.⁶³ Navigation depended on a number of separate yet supporting talents: familiarity with the terrain below, an ability to interpret instrument readings in relation to the actual environment, and an innate sense of direction. Gifted with all of these abilities, even the best pilots found themselves lost from time to time. In peacetime, this might mean a rough landing and a phone call for help. In battle, it could mean being captured or killed.

The absence of aerobatics or any combat maneuvers in the RMA test betrayed America's retarded development in military aviation. At a time when European pilots were dogfighting over the front lines, Army pilots in the United States were practicing cross-country, level flying, of the type best suited for reconnaissance work. As accounts of the air war overseas – particularly of Europe's the leading aces who the papers were calling the "knights of the air" – were readily available to Chambers and his fellow students, it is obvious the Americans must have realized the shortcomings of their own equipment and training.⁶⁴ Even after completing their RMA challenge, they had a long way to go before they would be ready to face enemy aircraft in battle.

Chambers completed about two-thirds of his RMA requirements at Ashburn before his unit was ordered to move again.⁶⁵ This time they were headed to the newly

⁶² Guy O. Stone, interview by Richard W. Iobst, August 13, 1980, transcript on file at AFHRA (K239.0512-1225), 6. In his interview, Stone lamented the unreliability of aircraft compasses, relaying the story of a student who was assigned to fly from Issoudun to Orleans and was unable to find the city in three separate attempts. Stone concluded, "You had to go very much on a sense of direction."

⁶³ Chambers complained of his altimeters repeatedly, as did many World-War-I-era pilots. In one passage of his *Reminiscences* he recalled, "I was watching my altimeter – which we all knew was not accurate in those days" (page 20).

⁶⁴ Hudson, *Hostile Skies*, 26.

⁶⁵ Chambers, *Reminiscences*, 14.

constructed airfield at Rantoul, Illinois, about 130 miles south of Chicago. The squadron assembled its aircraft into a loose formation and followed the Illinois Central railroad tracks to their new home at Chanute Field.⁶⁶

The field at Chanute consisted of a single expanse of land and a few newly constructed buildings. These buildings were white and with bright red roofs, presumably so pilots could see them from a long way off. The “hard-pan,” that portion of the flying field onto which planes were to land, was covered in crushed gravel. The teams enlisted to construct the field were so unfamiliar with flying requirements that they did not realize that loose gravel created severe hazards for both the pilots and their planes. The stones could be picked up in the wake of the propeller – the prop wash – and hurled against the flimsy canvas or into the pilots themselves. This slinging gravel also chewed away at the wooden propellers.⁶⁷

The fact that many early military fields were so unsuitable reflected how new the idea of flying was to the service. The Army had not yet come to terms with the physical requirements of flying. Fields were constructed where they were needed, in large, open areas, relatively free of obstacles. The fact that the terrain was uneven, soft, muddy, or stony often did not figure into the location decision, leaving aircrews and mechanics the task of clearing stones, cutting grass, bushes, or saplings, and taking other steps to convert unusable areas into airdromes. This situation was never completely remedied during the war, however, the creation of special aero-construction squadrons, better

⁶⁶ D'Olive *Reminiscences*, 10.

⁶⁷ *Ibid.*

attuned to the specific requirements of flying operations, eventually helped alleviate some of the problems, at least on the new fields built towards the end of the war.⁶⁸

The move to Chanute was uneventful but resulted in Chambers and his classmates losing several weeks of flying, as the new base was made ready. When flying resumed, the students were shuffled so that they would have new instructors. Chambers was reassigned to Bert "Fish" Hassel, who he later recalled as "one of the great characters in this business."⁶⁹ Fish was instrumental to Chambers' later success in the air. The grateful flying student even credited Fish's training for saving his life.

Under J. D. Hill, Chambers had learned the fine art of the "suicide glides," a popular landing technique of that day. As the airplane approached the field, Hill taught each of his students to cut the power and let the Jenny gently glide to earth. It was a technique that worked well with the Jenny, which had sufficient surface area on its wings to allow a long glide. In a heavier plane with smaller wings, however, the suicide glide technique could prove fatal.

At the end of his first flight with Fish, as Chambers approached the field for landing, he cut the power and began his suicide glide. The noise of the motor was quickly replaced by noise from the rear cockpit. Fish was screaming at his student to resume power and fly the plane to a landing. After landing, Fish explained to Chambers that the correct way to land was to maintain power and descend until one was over the airfield, then to chop power and bring the plane down immediately. Chambers practiced this technique until he had mastered it. For the rest of his flying career, he would amaze his fellow airmen with his ability to land his plane in very confined spaces with very little

⁶⁸ Hudson, *Hostile Skies*, 29.

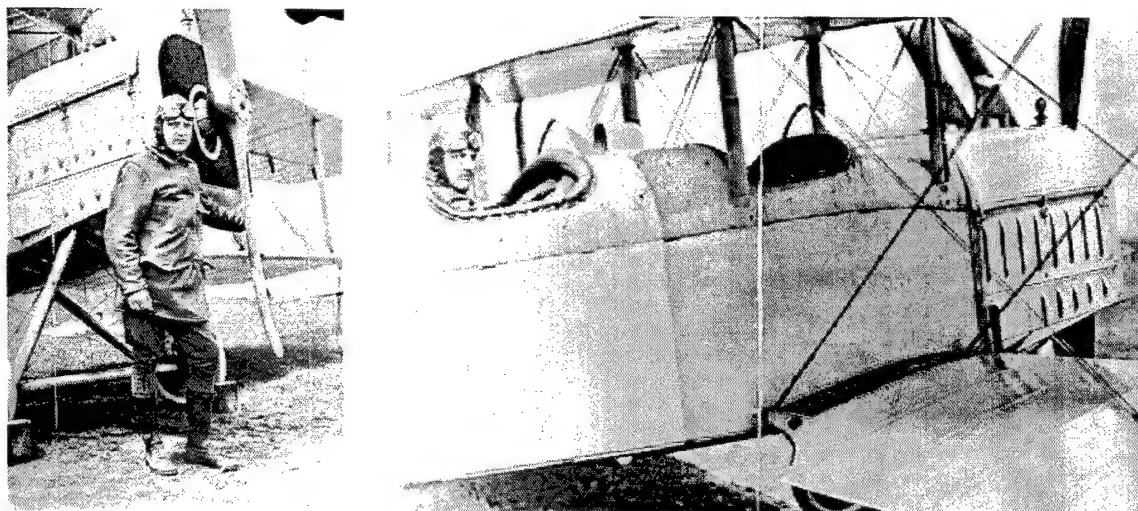
⁶⁹ Chambers, *Reminiscences*, 14.

glide. Fortunately for Chambers, Fish understood there was much more at stake in a powered landing than simply impressing one's fellow pilots. As planes grew smaller and more agile, and as their motors grew more powerful, glide paths would diminish. Suicide glides would become increasingly dangerous. During the war, when Chambers' squadron switched from Nieuport 28s to Spad XIIIIs, it was Fish's landing technique that allowed the young man to avoid crash landing the heavier Spad. Other pilots, those who had not given up their suicide-glide landing techniques, found the Spad very difficult to master. A few were even killed in crashes while attempting suicide-glide landings. As Chambers explained later, the Spad "would glide like a brick."⁷⁰

At Rantoul, Chambers also had the opportunity to fly the Thomas-Morse D-5 with the Thomas 135-horsepower, eight-cylinder motor. Despite its more powerful engine, it handled much like a Jenny. Its huge wing-surface area (465 square feet) and squarish structure produced more than enough drag to compensate for its increased horsepower, thus limiting it to a maximum speed of only 85 miles per hour, just slightly faster than a Jenny.⁷¹ A suitable trainer for novice pilots, it was still a far cry from the warplanes being used in Europe.

⁷⁰ Chambers, *Reminiscences*, 14 and Chambers Interview, 17.

⁷¹ *Jane's*, 250 and note from Reed Chambers on photograph sent to Winnie Chambers "135 H.P. Thomas. 85M.P.H.", from Winnie's photo album, now in the possession of Sharon Turner, Reed Chambers' granddaughter.



Figs. 8 and 9. Chambers and his Thomas-Morse D-5, Chanute Field, Rantoul, Illinois, 1917.⁷²

Chambers completed his RMA testing at Rantoul and was awarded his Reserve Military Aviator's badge.⁷³ Then, with only twenty-two flying hours to his credit, still-Sergeant Chambers was made an instructor. Although he estimated he had a total of about fifty students at Rantoul, only eight were truly his. He took these eight from their first flight through their first solo, before handing them over to more experienced instructors for their final RMA preparation and testing. One of these students was Harold H. Tittman, who had been employed by the State Department before the war. He would later join Chambers and the 94th Aero Squadron in France, where his former instructor would see Tittman shot down.⁷⁴

⁷² From Winnie Chambers' photo album. The thin, white, vertical lines on these prints resulted from folds on the original prints. Chambers folded them so they would fit into the letters he mailed to his mother. The majority of larger photographs from his wartime experience, those larger than about two inches square, reflect similar handling.

⁷³ Chambers, *Reminiscences*, 15 and Chambers Interview, 3.

⁷⁴ Chambers, *Reminiscences*, 16, and Chambers Interview, 3-4.

After several weeks of instructing new pilots, Chambers and eight-to-ten of his fellow instructors were notified they were going to San Antonio, to open the Army's newest flight training base there. The base was named Kelly Field.⁷⁵

The Army envisioned Kelly as the great future centerpiece in the Army's air-training program. Upon their arrival that summer, however, it appeared to Chambers and his friends that the Army had a long way to go. They were disappointed to find there were no planes, no students, and no work requiring their RMA skills. Most of the necessary infrastructure, including hangars, machine shops, and barracks, were still under construction. He and his fellow RMAs avoided the heavy construction work, but languished in the heat for two weeks, waiting for planes, students, or word of what they should do.⁷⁶ Then, according to Chambers, "the Government found out we were just sitting there doing nothing," and ordered the instructors to Fort Wood, New York in preparation for heading overseas. Happy to leave the heat, snakes, and tarantulas of southern Texas behind, and curious about the wonders they might see at Fort Wood, they again entrained and headed north.⁷⁷

⁷⁵ The new base was officially named "Camp Kelly" on June 11, 1917 and was not redesignated "Kelly Field" until July 30th. Since Reed was enroute overseas in August 1917, it is likely that he received orders to "Camp Kelly." The redesignation to Kelly Field probably occurred just as Chambers was leaving Texas. It is not unusual that he recalled his assignment to "Kelly Field" and not "Camp Kelly," since it was "Kelly Field" when he returned to Texas to serve there in 1919-1920. He continued to refer to it as "Kelly Field" for the rest of his life, even after it was redesignated "Kelly Air Force Base" after the Second World War. (Early names and dates from "History of Kelly Field," Headquarters Air Corps Advanced Flying School, Kelly Field, Texas, June 7, 1937, excerpted in "History of Kelly Field," Texas, 1 January 1939 – 11 March 1943, Vol. 2, page 238ff., written by the A-2 Historical Section, Army Air Forces Central Flying Training Command, Randolph Field, Texas, 1 April 1945. This document is on file at the Lackland Air Force Base Historian's Office, Lackland Air Force Base, Texas.)

⁷⁶ Others at Kelly noted similar frustrations. Corporal Walter S. Williams, assigned as an aircraft mechanic to the 27th Aero Squadron, recorded that his training at Kelly mostly consisted of erecting a YMCA building. He was extremely frustrated by the experience. When it came time to create a logo for the new aero squadron, Williams suggested a crossed pick and shovel (diary entry, dated June 23, 1917, Diary of Corporal Walter S. Williams, AFHRA (K-WG-1-HI, 1917).

⁷⁷ Chambers, *Interview*, 4.

Along the way, Chambers and his friends learned they had received their commissions, welcome news after weeks of waiting. Arriving in Pennsylvania Station, the small band of lieutenants anticipated receiving train tickets and instructions for some destination in upstate New York.⁷⁸ They were very surprised when the duty officer merely told them to take a subway to Battery Park, then a ferry over to the Statue of Liberty. They grabbed their gear and clamored onto the Subway. At Battery Park, they climbed aboard the ferry as instructed. There at the base of the Statue sat a man in an Army uniform behind a small desk. On the front of his desk was a sign: "FORT WOOD." Chambers and his friends were confused, but reported in. The man welcomed the pilots to Fort Wood and stamped their orders. He first asked them to take out time to look over the Statue, then instructed them to proceed to Hazelhurst Field, in Mineola New York. Before departing, the men climbed to the very top of the torch. Chambers reasoned later that the purpose of the short visit may have been for the Army to teach its new men "a little lesson in liberty and patriotism."⁷⁹ For many, including Chambers, this was his first trip to the New York. Memphis paled in comparison.

From Fort Wood, the group proceeded by ferry back to Manhattan where they boarded the Long Island Railroad for Brooklyn, arriving at Hazelhurst Field that afternoon. They were to remain at Hazelhurst for several weeks, awaiting transportation overseas. It was not an enjoyable time for Chambers.

He had been inoculated in Nashville when he was activated with the Guard in 1917. He received a second round of shots when he joined the Army Signal Corps in Memphis a few months later. Now at Hazelhurst, he discovered the Army had lost his medical

⁷⁸ The discussion on Chambers' trip overseas is extracted from Chambers, *Interview* 4-5 and Chambers, *Reminiscences*, 17-18, except where noted.

⁷⁹ Chambers, *Reminiscences*, 17.

records. He would have to take the battery of shots a third time. He became very ill after his third typhoid shot. His arm swelled larger than his thigh, and he was placed on quarters for several days.⁸⁰ He recalled that the typhoid shot made one, “sick as a dog,” adding, “I was as sick as seven dogs after taking [that last] series.”⁸¹ When he recovered from this he and his compatriots were ordered overseas.

From Hazelhurst, Chambers and his friends boarded a ship and sailed for England.⁸² The trip across the Atlantic was mercifully uneventful. The Americans disembarked at Liverpool where Chambers and his companions were immediately directed to a train that carried them to Southampton. There the group was billeted alongside the docks, waiting for a transport to ferry them to France. Two days later, the group made it successfully to Le Havre, France. Chambers recalled that he and his companions were not impressed by their first view of France.

The port was overrun with crowds of disembarking Americans, struggling to get their gear and move out to their assigned destinations. Adding to the noise and the chaos of the crowds was the weather – it was pouring. The heavy rains, August heat, and pervasive mud made any movement outdoors difficult. Chambers and his party collected their gear, disembarked, and marched a mile and a half to an English rest camp, where they were billeted for two days. Then, after a three-day pass to see Paris, Chambers and

⁸⁰ Chambers, *Interview*, 5.

⁸¹ *Ibid.*

⁸² In Chambers' 1960 interview – *Reminiscences* (17) – he says he went over on the *S.S. Manchuria*. In his 1967 interview (5), he claimed he sailed on the *S.S. Louisville*. Since it is difficult to discern from his accounts exactly when his ship sailed (the only specific he provided as to timing was that he arrived at Issoudon, the American flight-training center in France, “in August”), it is impossible to know for certain which ship was his. One possible explanation for the contradiction is that he actually sailed on both ships. By this point in the war, the allies had adopted convoy tactics as a defensive measure against the German submarine threat. Chambers recalled waiting at Halifax for his convoy to form; it is possible that he was assigned to a different ship during this waiting period.

his friends boarded a train and headed for their new home at the Third Aviation Instruction Center at Issoudon, seventy miles southeast of Paris.

Chambers had come a long way from his first military experience with the Chickasaw Guards. The government stepped in to provide him new uniforms and a weapon, but in return he had endured the harsh conditions at Eagle Pass. He had been heartily disappointed by the unfunded National Guard flight-training program and so, working well outside the established chain of command, he pursued another avenue to attain his goal of becoming a pilot. He secured the assistance of his commander, Governor Rye, and befriended the officers at Memphis in order to transfer into the Aviation Section of the Signal Corps. Once there, however, he witnessed a level of chaos that undoubtedly shook his confidence in his government's planning abilities. This was not the same outfit that so quickly delivered on its promise of guns and uniforms in Memphis. Instead, he saw ill-prepared fields, inadequate equipment, and training that fell far short of the actual requirements of combat. Additionally, the painful illness he had suffered as a result of the multiple immunizations shook his confidence in the Army's administration. Although he was still eager to fly and fight in Europe, Chambers was undoubtedly disappointed by his experiences to date. He could only hope that, assisted by its European allies, the American Army in France would provide better facilities, machines, and training to prepare him and his comrades for combat.

Chapter Two

War: Getting into the Fight

Chambers' experience in the First World War was critical to both his personal and professional development. He learned more about his own capabilities and limitations, developed his leadership skills, and throughout his months in Europe, became increasingly skeptical about the United States' ability to train and equip forces for war. For ease of discussion, Chambers' wartime service can be divided into four periods. From August of 1917 until March of 1918, he was involved in training activities at Issoudon, Tours, and Cazaux. In March he was assigned to the 94th Aero Squadron, and was stationed in the relatively quiet Toul Sector. In the third phase of his service, beginning on June 30th, he moved with his squadron to Touquin in support of the Chateau Thierry campaign. Then in the final phase, beginning on September 1st, he moved to Rembercourt in support of both the St. Mihiel and Meuse-Argonne offensives. This final phase of his service lasted until the Armistice, on November 11, 1918.

While this division of Chambers' service appears convenient as a literary device for telling his story, each of the four phases mark an important period of development in his transition from novice pilot to air ace. During the training period, he came to grips with the requirements of combat flying, learning aerobatics, gunnery, and navigation – the skills he would need to survive when he met the enemy. In the second, he applied those skills in combat situations but failed to achieve the results he was seeking, even while many around him were earning fame for their fighting prowess. During the third phase of

his war service, he stepped in to deal with a crisis in squadron leadership that was hindering his unit's ability to fight, while at the same time trying to overcome the forces inhibiting his own success in the air. This was undoubtedly the low point in his wartime service, forcing him to reconsider both his personal performance and the responsibilities and requirements of leadership. It was only during the final phase of his service that Chambers applied the lessons he had learned from each of the previous three periods to achieve the success he craved. His evolution to air ace was significant not just because of the enemy aircraft downed or the fame his victories netted him, but also because of the important lessons Chambers learned about himself and leadership; lessons that would guide him for the rest of his life.

Phase One: Training

Despite their high hopes that their situation would improve in Europe, Chambers and his comrades were appalled by the conditions at Issoudon. As at Kelly Field, they again found themselves at a camp still under construction, but this was far worse. The work crews – largely consisting of local French laborers who were too old or unfit for military duty – had not even laid duck boards, the ubiquitous wooden walkways designed to keep hapless soldiers from sinking into the mud whenever it rained.¹ The mud, the language barriers, the atmosphere of impending crisis (as rumors of a new German offensive circulated), and their belief that as commissioned officers they would no longer have to perform menial labor contributed to the newly arrived Americans' low morale.

Further, the men disliked the camp's command staff. Major Carl "Tooe" Spaatz had been appointed to create America's largest AEF training center.² His staff shared his

¹ Chambers, *Reminiscences*, 18.

² Hudson, *Hostile Skies*, 36.

talent for innovation and his drive for success. Oddly, they also had one other thing in common: Germanic last names.³ The men called their leaders, “the German spies” and blamed them for every shortcoming at the field.⁴ The newly arrived trainees heard rumors that the terrible conditions at Issoudon were a direct result of these alleged spies’ attempts to sabotage the American air effort.⁵

Lieutenant Eddie Rickenbacker, in charge of the maintenance facilities, was well aware that the cadets disliked him, but attributed it to class differences. Most of the cadets were from good, Ivy-League families, he reasoned, and in their tailored uniforms and hand-made boots, they felt compelled to look down their noses at the ex-race car driver who had only a grammar-school education.⁶ He recalled the students made sarcastic remarks both to his face and behind his back, which inspired in him a desire for revenge.⁷ Noting that the flying fields were unusable, largely because of the quantity of rocks strewn about, Rickenbacker requisitioned a hundred pails then issued them to the students, ordering them to collect the stones. He relished the moans and groans of these aviation cadets as they labored in the fields.⁸

³ Spaatz’s adjutant was named Wiedenbach. Wiedenbach’s assistant was a Sergeant Major named Tittel. Tittel and Wiedenbach spoke with thick Dutch accents, indistinguishable from German accents to the American cadets. Eddie Rickenbacker, who still spelled his name Rickenbacher at that time, was the camp’s Engineering Officer (Chambers, *Interview*, 6).

⁴ Rickenbacker, *Rickenbacker* (Prentice Hall, Incorporated, Englewood Cliffs, New Jersey), 1967, 92; Chambers, *Reminiscences*, 18-19; and Chambers, *Interview*, 5-6.

⁵ Chambers, *Interview*, 6.

⁶ Rickenbacker, *Rickenbacker*, 92. In his autobiography, Rickenbacker revealed his parents were German immigrants who arrived in the United States “virtually penniless.” His father worked as a laborer for years, but then struck out on his own as a subcontractor, building foundations and laying pavement. Rickenbacker was working outside the familial home before he started school. (*Ibid.*, 3, 10).

⁷ *Ibid.*, 92.

⁸ Rickenbacker recalled the Ivy Leaguers’ “groaning and moaning ... were music to my ears.” *Rickenbacker*, 92. Chambers recalled that his main grievance with the work was that those who had already earned their RMA wings were treated the same as those who had not. Regardless of their level of aerial proficiency, all of the cadets had to collect rocks. To make matters worse, Chambers remembered they were working alongside captured German enlisted prisoners of war, further supporting their belief that the manual labor was far beneath them (Chambers, *Reminiscences*, 19).

Chambers' first taste of rock-removal duty was on the *Rouleur* Field. *Rouleurs* were airplanes with shortened wings so that they were incapable of lifting off the ground.⁹ After clearing the field of rocks, Chambers was ordered to make a couple of passes in a *Rouleur*. It turned out to be harder than it looked.

The machine had no brakes, so its pilot had to ease down the throttle and let the plane coast until it was slow enough to venture turning around. Turning too early, before decelerating sufficiently, could prove dangerous, because of the *Rouleur*'s high center of gravity. Fledgling pilots could curtail their careers in a deadly roll.¹⁰ In addition to mastering rudder controls, another important though less obvious component of this training was developing the trainees' motor-handling skills. As one cadet observed, with the French rotary engines, "you flew the engine as much as you flew the airplane." A pilot had to keep his hand on the throttle controls, constantly adjusting the fuel mixture so the engine would not die.¹¹

Even starting the planes was a unique experience for the American-trained pilots. In order to get the motor draw fuel, a member of the ground crew would have to manual spin the propeller. Because the ground crews were often French, it became customary to perform the operation in French. The mechanic would shout "*Coupez!*" meaning "cut," so the pilot would know to cut the ignition switch. The pilot would turn the switch off and answer, "*Coupez!*" Then the mechanic would give the propeller three spins. After that he would shout, "*Contact!*" to let the pilot know to turn the switch back on. The

⁹ At Issoudon, the majority of *Rouleurs* were Moranes that had been taken out of combat service and had their wings chopped off. *Rouleurs* and the French training system in general are described in a variety of books. Hudson (*Hostile Skies*) examines the system briefly on pages 32-33. Cameron discusses it in her section, "Primary Training," pages 149-160. (She addresses *rouleurs* on page 153.) Rickenbacker, in his autobiography, describes the system on pages 90-95. Chambers recalls his training on pages 5-6 of his *Interview*, and on pages 19-20 of his *Reminiscences*.

¹⁰ Chambers, *Interview*, 6.

¹¹ D'Olive *Reminiscences*, 16.

pilot would turn his switch on and answer “*Contact!*” The mechanic would then give the propeller a good tug, moving quickly out of its way as it roared to life.¹²

After two successful passes in the *Rouleur*, Chambers’ instructors recognized that he had mastered taxiing and turning and he was graduated to the Main Field. There he would fly the 80-horsepower, 23-meter Nieuport, so called because of its 23 meters of wing surface area.¹³ The 23s were available both as monoplace or biplace models.¹⁴ It was a slow and forgiving airframe, very suitable for the beginning pilot.¹⁵ Many American-trained pilots, however, found ample reason to dislike the French planes.



Fig. 10. The Main Field at Issoudon, Home of the American 3rd Aviation Instruction Center.¹⁶

While the Nieuports were lighter and much more maneuverable than the Jennies and Thomas-Morse aircraft the Americans had flown at home, they were also more difficult to fly. The planes’ rotary engines required near-constant manipulation of the throttle, to prevent stalling. The engine was particularly given to stalling during the critical climb

¹² Douglas Campbell, *Interview*, 31. Interviewer unknown, conducted July 8, 1964, from the Oral History Collection, Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

¹³ US Army records identify these Nieuport designs by their wing-surface area – Nieuport 23M, 18M, and 15M. The French *Société Anonyme des Établissements* identified these types as the Nieuport 17, 83, and 81 respectively.

¹⁴ “Monoplace” means single-seat while “biplace” indicates a two-seat aircraft. In training models, biplace planes normally had dual controls so that the instructor, riding in the rear, could take over from a student as needed. At the front, however, the second seat was reserved for the gunner and/or observer/bombardier. Reconnaissance and combat reports from the front typically only identified enemy planes as monoplace or biplace; seldom did the reporter attempt to discern the exact model.

¹⁵ Rickenbacker called the Nieuport 23, “old, slow, and practically foolproof.” *Rickenbacker*, 93.

¹⁶ Official Photograph, Signal Corps, reprinted in *U.S. Official Pictures of the World War, Showing America’s Participation* (Pictorial Bureau, Washington DC, 1920), 170.

from takeoff, when there was not yet sufficient airspeed for a safe glide back to the field. The cadets' task was complicated by differences between the French planes and the machines they had flown at home.¹⁷ Unlike many of his peers, Chambers, the self-admitted "natural flier," did not seem to have a problem switching to the French machines.

Quickly demonstrating proficiency in this 23-meter plane, Chambers graduated to the 80-horsepower 18-meter Nieuport, for more advanced flight training. Finally he moved on to the Aerobatics Field for the advanced aerobatics course required for pursuit pilots. There, his introduction to aerobatics must have struck him as somewhat comical. At one edge of the field sat a derelict airframe, from which all the fabric had been removed. The instructor would gather his students around this fuselage, climb in, and then demonstrate the physical manipulations necessary to fly certain maneuvers in the air. After completing the demonstration, the instructor would climb out and have a student take his place. The instructor would call out the maneuvers and the student would manipulate the controls as required. When the instructor was satisfied the students knew how to manipulate the controls, he would send the student aloft to an altitude of two or three thousand meters and have the student demonstrate the maneuvers in flight.¹⁸ Not surprisingly, given this style of training, the accident rate was very high.¹⁹

¹⁷ Without production standards, American manufacturers slapped throttles into cockpits wherever they fit. In the years before the war, these throttle controls had gravitated toward the left side of the instrument panel, while in the French machines the throttles were uniformly located on the right. In a panic situation, conditioned American pilots instinctively reached out with their left hands, wasting critical moments and adding to the confusion. Many crashed before they could recover (Harold Hartney, *Up and At 'Em*, (Stackpole Sons, Harrisburg Pennsylvania, 1940), 131-132).

¹⁸ Campbell Interview.

¹⁹ Hudson calculated there was one fatality for each 9.2 pursuit-pilot graduations, as compared to one for each 50 pilots graduating from reconnaissance or bombardment schools (*Hostile Skies*, 35-36).

At the Aerobatics Field, Chambers flew the 15-meter Nieuport. The school had both 80 and 120-horsepower variants of this airframe. The 120-horsepower planes, because of their small size and powerful engines, were very difficult to fly, but Chambers mastered them, lovingly recalling them as “the little hotshots.” When he had demonstrated proficiency in this final airframe, he had completed training. After this, Chambers and his comrades’ next step was a trip to the gunnery school at Cazaux. First, however, they would have to wait for the next class behind them to graduate from training so they could all go together. They sat around their quarters, occasionally getting an opportunity for a short flight, ten or fifteen minutes, but mostly just waiting.²⁰

It was shortly after completing his aerobatics training, while waiting for his classmates, that Chambers had his first real scare while flying. Arriving at the airfield on a beautiful, sunny afternoon for one of the short familiarization flights he had been promised, he was oblivious to an approaching fog bank. At about fourteen thousand feet, he looked down to see thick clouds creeping in below him, but he still did not recognize these as fog. He flew to where he believed the field was and started his descent into the clouds. Keeping his eyes glued to his altimeter – a highly inaccurate gauge in those days, but all he had – Chambers descended lower and lower. As he descended, he realized his mistake. These were not clouds, but fog. He would remain completely blind all the way to the ground. Controlling his panic, his eyes searched for any break in the fog, while at the same time he kept track of his decreasing altitude. Suddenly realizing he must be very near the ground, he pulled the nose of his plane up just in time to note some trees whipping by. He chopped everything and set the Nieuport down right in the middle of a vineyard. Fortunately, the vines had been pruned recently, or it might have been a

²⁰ Chambers *Interview*, 6.

catastrophic landing. As it was, the stumps were less than a foot tall. After a very short, very bumpy roll through the vineyard, the machine settled to a stop. Chambers climbed out and noted he had blown a tire in the landing. He also saw that there would be no way for him to liftoff from this location, even if the tire were repaired. He set off to get help.²¹

The next day a group of mechanics and laborers from the base came out, repaired the tire and pulled the plane to a suitable position for a takeoff. Chambers thanked them, climbed in, and flew back to his field. Blind flying was virtually unknown in 1917. Shaken by the incident, Chambers resolved not to attempt it again.

A few days later, while delivering a Nieuport to the main base for an engine overhaul, Chambers met Eddie Rickenbacker. Chambers had landed his plane in between two rows of parked Nieuports awaiting maintenance. The Engineering Officer had at first been angry about Chambers' landing, but later confessed he was very impressed with his fellow American's ability to land in tight spaces. As they talked over dinner that night, Chambers became impressed with Rickenbacker's tenacity in keeping the camp's planes flying in the face of so many administrative obstacles. He was also impressed that Rickenbacker had completed much of his flying training on his own, sneaking into classroom lectures whenever his hectic schedule permitted, and taking unsupervised flights in the evenings after the instructors had left the field.²² The two quickly became friends.

It is likely that in Rickenbacker, Chambers found someone very much like himself: tenacious, devoted, precise, and very down-to-earth. Although he could play the role of

²¹ Chambers, *Reminiscences*, 20.

²² Rickenbacker, *Rickenbacker*, 92-93.

the socialite with the best of them, underneath he was the tough kid from Onaga and LaHarpe – about as blue-collar as a man could come. Further, unlike most of their contemporaries at the camp, who had attended college, neither Chambers nor Rickenbacker had completed high school.²³ Further, Chambers appreciated Rickenbacker's patriotism and his devotion to duty. Lastly, he was quick to accept his own error in judgment and wanted to make up for the poor treatment Rickenbacker had received from the students at Issoudon. In Rickenbacker, Chambers found someone who felt about flying much like he did. They were called to it.

Back at the Aerobatics Field, Chambers' fellow students were stunned when he admitted he had eaten with one of the detested "German spies." They turned on Chambers immediately. The situation worsened when, a short time later, Spaatz permitted Rickenbacker to proceed to the Aerobatics Field to complete his training. The rest of the cadets ostracized the two friends.²⁴ Although in his memoirs, Chambers blamed his loss of popularity on his association with the detested Rickenbacker, he does not appear to have considered the possibility that it was not this friendship that incurred his peers' wrath, but what that friendship revealed about Chambers himself. If Rickenbacker was correct, and the cadets' disdain for him was based on class, then it is probable that Chambers' own lack of social standing and education was revealed through his association with Rickenbacker. If so, it is not surprising that he failed to recognize it. Because of his experiences in Memphis, he already felt himself something of a socialite.

²³ Thomas Washington Ward recalled that when he was at Issoudon, about the same time as Chambers, that the cadets were, "all sons of millionaires" ("A Little More History of the First Reserve," December 31, 1939, unpublished correspondence filed in AFHRA, SQ-FI-HI (168.72395-13), 2). Further, as the Signal Corps had decided in May of 1917 to let American colleges and universities handle the ground-school phase of air training, a consequence of that decision was the majority of aviation cadets were college men. (Hudson, *Hostile Skies*, 27-28).

²⁴ Chambers, *Reminiscences*, 23.

Had he not already earned acceptance in the vaunted Chickasaw Guards? No, admitting that he was outcast because he was unworthy would have been too painful. It was easier to blame it on his loyalty to his ostracized friend.

The two remained outsiders among the pilots until a new measure of social standing replaced the old. As the war progressed, education, wealth, refinement, and custom clothing were all discarded in favor of combat prowess. The friends' skill in the air eventually overcame the differences that isolated them while in training.

Two days after Rickenbacker's arrival, Chambers received upsetting news. He was being ordered to the 5th Aviation Instruction Center at Tours, where he was to serve as an instructor. The news made him feel "lower than a snake" – he feared he would never get to the front. But always a good soldier, he dutifully made his way to Tours, where he immediately reported in to his new Commanding officer.²⁵ He was pleasantly surprised to find, sitting behind the Commander's desk and now wearing major's rank, his friend Art Christie, who he had met at the North Memphis Driving Park in April. Chambers played on their friendship, recalling the good times they had together in Memphis and asking if there was any way that Art could get him out of this awful assignment and up to the front.

Christie thought it over. "Well, we need instructors mighty bad, and I'll tell you this: if you get in and really work, I'll promise you that we'll have orders cut for you to go to Cazaux and meet your own gang when they arrive there." Chambers was elated and went to work immediately.²⁶ To make sure his old friend could not accuse him of taking it

²⁵ The discussion of Chambers time at Tours is extracted from Chambers, *Interview*, 7-8 and Chambers, *Reminiscences*, 23-25.

²⁶ Chambers *Interview*, 7, and Chambers *Reminiscences*, 24.

easy, Chambers ran two classes a day, flying three hours in the morning and three in the afternoon, twice what his fellow instructors were flying.

After a couple of weeks, he was called in to see Major Christie. Art smiled broadly and told his instructor he had done a wonderful job and was on his way to Cazaux. With that he handed his friend signed travel orders. Chambers left for Cazaux the next day.

Arriving on the same day as his gang from Issoudon, he was elated to see Rickenbacker and all his old friends, though it did not take long to realize that his former comrades were not yet ready to accept him back into the fold. Chambers and Rickenbacker continued to be ostracized while at Cazaux, although it really did not matter to either of them. They were both very happy to get into the gunnery school, and elated at the prospect of moving on to the front.

The twenty-day course at Cazaux was supposed to be the finishing touch in transforming the American flyers into fighters.²⁷ The students began in classrooms, learning how machine guns worked, how to disassemble and reassemble them, and which jams could be cleared in flight and which required more complete maintenance on the ground.²⁸ The pilots' first hands-on shooting assignment was not what anyone expected. Students had to stand in a boat and fire a 30-caliber rifle at a target being towed around by a second boat. It required a good sense of balance not to be thrown overboard by the bobbing of the boat or the recoil of the rifle. Rickenbacker, who according to Chambers was never a very good shot, was in the boat for days.²⁹ He recalled firing so much that his entire shoulder was black and blue.³⁰

²⁷ "Twenty-day" from Cameron, 171.

²⁸ Campbell *Interview*, 7.

²⁹ In his *Reminiscences*, Chambers remarked, Rickenbacker "couldn't put as many holes in a target that was being towed as I could, but he could put more holes in a target that was shooting at him than I could." To

After the boat, students graduated to the many shooting ranges set up around the camp. They learned how to fire pistols, rifles, shotguns and machine guns at both stationary and moving targets. For moving targets, they were given balloons, targets floating in water, and clay pigeons. Once this was completed, students moved on to aerial gunnery.

The planes at Cazaux were ancient. They were wholly inadequate for the types of aerobatics the pilots would employ in combat at the front. Harold Buckley recalled how the condition of the planes dampened their eagerness to fly:

Then.. we saw the old planes which had been yanked around the sky for two or three years by every pilot in the French army. ... It gave us the shivers just to look at them; they were decrepit and falling apart. [Each day,] we prayed for rain.³¹

On one exercise, students flew an old Nieuport with a machine gun, firing at a target pulled by an even older Caudron, the same type of plane Chambers had flown at Tours. In addition to these exercises, students were allowed to fire at small balloons that they released from their cockpits. They would throw the balloons out, then maneuver their planes to hit them as they slowly descended to earth. They also fired at some small, fixed balloons, and get a little practice strafing ground targets.³²

After completing gunnery training at Cazaux, Chambers and most of his companions were sent back to Issoudun for assignment to an operational squadron. Rickenbacker did not return to Issoudun with the rest of the group. He was given a ten-day pass to Paris. Because Rickenbacker was not slated to return until after the squadron assignments were posted, Chambers thought it likely that he would not see his friend again for some time.

Chambers, it appeared that Rickenbacker's secret was nerve. He got in very close, where marksmanship was not as great of factor, and then opened fire.

³⁰ The discussion of the training at Cazeaux is taken from Rickenbacker, *Rickenbacker*, 95.

³¹ Harold Buckley, *Squadron 95* (The Obelisk Press, Paris, 1933), 38.

³² Hudson, *Hostile Skies*, 37.

On March 1st, the officer assignments were posted for the 94th.³³ Chambers noted on the list the names of many of the men with whom he had completed training.³⁴ Now that they were a unit, it was time for them to receive their aircraft and move to the front.

Phase Two: Learning to Fight – the Toul Sector

On March 4th, the 94th Pursuit Squadron, temporarily under the command of Captain Henry L. Lyster, was ordered to Villeneuve Les Vertus, near Epernay, in the Toul Sector. There, the 94th was to join its sister squadron, the 95th, to form the combat arm of the newly created First Pursuit Organization and Training Center, then under the command of Major Bert M. Atkinson.³⁵ On paper, Atkinson's team looked impressive, yet the truth was almost embarrassing: America's premiere flying combat group had no airplanes. Even with mounts, however, they were scarcely ready to face the Germans in the air.

³³ It was the practice at that time for squadrons of enlisted personnel to form in the United States, conduct some initial mechanics training where available, then head overseas for the remainder of their training. When this body of enlisted troops completed their training, they were assigned officers and moved to the front. The 94th Aero Squadron had been formed at Kelly Field on August 20th, 1917. When it was ordered to report to New York, for its embarkation to France, it consisted of 150 enlisted men and two officers: a doctor, and a Second Lieutenant who was serving as the commander. Following a route similar to Chambers', the squadron had reached Issoudon on January 24th, 1918, where it completed its ground-support training and readied its equipment for combat operations. (From "History of the 94th Aero Squadron," undated, AFHRC (SQ-F1-94-HI, IRIS 4793-9), 1. This is an informative document, prepared by the staff of the 94th immediately after the end of the war and signed by then-Major Reed M. Chambers, Commander. This document will hereafter be referred to as "Chambers' History.")

³⁴ That March 1st list included the following officers:

Charles W. Alexander, Pilot	Oscar J. Gude, Pilot
Adrian M. Butcher, Pilot	William F. Loomis, Pilot
Douglas Campbell, Pilot	Henry L. Lyster, Adjutant and Acting Commander
Charles W. Chapman, Jr., Pilot	Charles A. Rankin, Engineering Officer
Reed M. Chambers, Pilot	Thorne C. Taylor, Pilot
Linn P. Cookson, Pilot	Paul H. Walter, Surgeon
Arthur L. Cunningham, Pilot	John Wentworth, Pilot
Philip W. Davis, Pilot	Alan F. Winslow, Pilot

From the "Roster of Officers Who Were And Are at Present With This Organization," "History of the 94th Aero Squadron," AFHRC file 168.7239-5, page K26. This document will hereafter be referred to as the "History of the 94th." This history differs in style and content from Chambers' *History*, mostly because of a great number of detailed attachments outlining combat statistics and flight operations. It is significant to note, however, that this author noted no contradictions between the two documents. (Note: The "Roster of Officers..." also appears as an addendum to Hartney, *Up and At 'Em*, pp. 325-328.)

³⁵ Hudson, *Hostile Skies*, 64. The 95th arrived earlier, because its pilots had skipped gunnery training at Cazaux.

At Villeneuve, the Americans would be stationed alongside the famous French 12th *Group de Combat* and the *Cigognes Escadrille*. It was the General Staff's hope that the new pilots would observe and learn from their experienced French counterparts. In addition to learning from the French, another way the Staff hoped to enhance the new pilots' talents was to shield them from ground attack and any contact with Germany's most dangerous air units until the Americans could become more familiar with their aircraft and the requirements of aerial combat. For this reason, the Toul Sector seemed an ideal place for the Americans to begin operations. By March 1918, except for the sounds of artillery, there was little sign of the ongoing ground war being fought nearby.³⁶ With rumors of an all-out German onslaught running rampant, however, no one knew for sure just how long the calm in the Toul Sector would last. Atkinson had to make the most of the time he had. His first priority was planes.

On February 26th, after countless phone calls, Atkinson was able to enlist the support of the American General Staff to secure a commitment from the French.³⁷ He was told that thirty-six Nieuports were waiting for the Americans at the Orly airfield in Paris. He put all of his available pilots on leave and sent them to Orly to pick up planes. He also contacted Lyster and instructed him to send a number of his pilots to the airfield at Orly in order to take custody of any remaining planes and bring them to Villeneuve.

Chambers was one of those chosen to go.

³⁶ The sector was also quiet in terms of enemy aerial activity. ("Chronology of Air Serve Units Assigned to Armies to November 11, 1918" (Gorrell Histories, AS AEF, D, II), part I, 10, and Undated "History of the 94th Aero Squadron," signed by Reed M. Chambers (hereafter called "Chambers, *History*"), and filed in SQF194H1, Iris 4793-9, at the Air Force Historical Research Center, Maxwell Air Force Base, Alabama, 6). One observer wrote, "The enemy pursuit aviation was neither aggressive, numerous, nor equipped with the best types of machines" (Maurer Maurer, ed., *The U.S. Air Service in World War I*, Vol. I: "The Final Report and a Tactical History," Washington DC, the Office of Air Force History, 284.)

³⁷ The French had promised the First Pursuit Organization thirty-six Nieuports, but had failed to deliver them. In repeated attempts to locate these machines, Atkinson was told that all France's combat-ready aircraft were needed elsewhere on the front.

Although the Americans had hoped for Spads, at the Orly airfield they found a type of plane new to them all, the Nieuport 28 C-1 Scout. These were monoplace fighter aircraft, with sixteen square meters of wing surface, powered by 160-horsepower, Monosoupape Gnôme rotary engines. Although maneuverable, they were structurally unsound, and their motors and fuel systems required great skill on the part of its pilots to keep the plane flying and prevent fires.³⁸ As Chambers recalled later, “the French didn’t want any part of them ... [and] we were too stupid to know they were bad.”³⁹



Fig. 11. Chambers stands in front of a Nieuport 28C wearing his “teddy-bear,” fur-lined flying suit.⁴⁰

³⁸ The propeller was attached directly to the one-valve motor, rotating on its central shaft. Gasoline was gravity-fed into the crankcase from a fuel line located on the right side of the fuselage. The position of the line sometimes caused planes returning from patrols to stall when placed into steep left banks. The motor, starved for gasoline, would die. Conversely, if the pilot decided to glide without power, by cutting his ignition switch, either to conserve fuel or to move silently over the enemy, he had to remember to cut the fuel switch, or gasoline would continue to pool in the crankcase, causing a terrific fireball when the pilot again turned on his switch. The idea of shutting off the motor for silence was practical given the fact that the Monosoupape motors produced an unmistakable screeching wail, not unlike the sound produced by a modern jet engine. Enemy anti-aircraft gunners, ground observers, and balloon crews grew familiar with the telltale wail, making it difficult to achieve surprise in ground attacks. Yet another problem with the fuel system was the location of a small reserve tank, called a *nourice*, along the right side of the fuselage about even with the pilot’s right elbow. The proximity of this tank meant the pilot could be sprayed with gasoline in the event of a near-miss shot into the cockpit (technical details from Campbell, *Interview*, 28 and 33. Characterization of the noise the motor produced from Chambers, *Interview*, 8).

³⁹ Chambers *Interview*, 8.

⁴⁰ From Winnie Chambers’ photo album. It is likely this picture was made when Chambers was at the airfield at Orly. Note that the Nieuport is not camouflaged nor does it have a machine gun mounted.

Despite its agility, the Nieuports had been relegated to second-class status by the introduction of the robust and more powerful Spad XIII, the same type of plane the French were flying at Villeneuve. With their 220-horsepower Hispano Suiza motors the Spads were faster, could fly higher and, because of their sturdier construction, could better withstand the stresses of a steep dive.⁴¹ Diving was an excellent method of accelerating away from danger. In the Nieuport, however, a steep dive could prove a riskier option than staying in a dogfight. The plane was very fragile and had a notorious reputation for shedding its wing fabric when placed in a steep dive. There were even reports that during acceptance testing entire wings had sheered off, resulting in the unfortunate pilots' deaths.⁴²

The American pilots realized immediately that their new mounts presented a number of potential problems for combat operations. At that moment, however, none seemed more important than the fact that the planes were unarmed. The promised guns had not yet been delivered. They had been taught that the mission of the *chasse* pilot was to outfight enemy planes, sweeping them from the sky.⁴³ Without guns, the Americans

Further, the weather pictured matches the conditions Chambers and Buckley describe at Orly on March 5th 1917.

⁴¹ William Mitchell, *Memoirs of World War I*, New York, Random House, 1960, 186. Thomas R. Funderburk explained what caused the wings to shred in his book, *The Fighters, the Men and Machines of the First Air War* (Grosset and Dunlap, New York, 1965): "Apparently normal condensation resulting from daily climatic changes attacked the glue with which the plywood of the leading edge was bonded, causing the plywood eventually to delaminate. The loosened plywood worked against the fabric, putting a severe strain on it so that the fabric might split from the overload it took in diving or rough handling. Once the fabric was split the slipstream got under it and ripped it away" (163-164).

⁴² This weakness was relayed to the Americans through rumors (Chambers, *Interview*, 8). Even after the Americans began experiencing similar problems with the Nieuports' wings, there appears to have been an effort to silence complaints against the plane. As Buckley recalled, after two pilots had narrowly escaped death because of this problem:

This had been immediately hushed up by the authorities as much as possible. No doubt they were afraid we would all get the "wind up." All inquiries were met by mysterious smiles. (Buckley, *Squadron 95*, 71)

⁴³ Mason Patrick, *The United States in the Air*, Garden City, N.Y., Doubleday, Doran and Co., 1928, 31.

would be impotent. Further, having learned of the Group's extended wait for airplanes, they calculated it might be a long time before they would get their first taste of combat. Atkinson would have to start a new battle with the General Staff's bureaucracy in order to arm his pilots for combat.⁴⁴

On the morning of March 6th Chambers and his comrades began ferrying machines to Villeneuve. Only fifteen planes were able to take off that day and only six of these managed to complete the sixty-mile flight and reach the Villeneuve airdrome on schedule.⁴⁵ Due to mechanical difficulties, Chambers and eight other pilots *panned* – the French word for a forced landing – at various airstrips and farmers' fields along the way. It was several days before all of the planes finally made it to their new home.

At the time of its move, the 94th consisted of 162 enlisted men but only fifteen officers.⁴⁶ They needed additional pilots. At Villeneuve they added seven pilots from Issoudun who had completed their training, but had not been assigned to squadrons. These were First Lieutenants: James A. Meissner, Seth Low, Hobart Baker, Edwin Green, Edgar Tobin, Joseph Eastman, and Eddie Rickenbacker.⁴⁷ Rickenbacker had been cut lose for a ten-day leave in Paris following his completion of gunnery training at Cazaux, and had learned only recently of his assignment to the 94th. Chambers was overjoyed to see him, though the rest of the pilots in the squadron still shunned the two friends.⁴⁸

⁴⁴ Rickenbacker, *Rickenbacker*, 97, Chambers Interview, 8.

⁴⁵ Philip Roosevelt to Arthur Brooks, Feb 14, 1921, 3, AFHRA file GP1-HI (FTR). Brooks, later the commander of the First Pursuit Group, had contacted Roosevelt for information for a history of the Group.

⁴⁶ Chambers, *History*, 6.

⁴⁷ Hartney, *Up and At 'Em*, "Roster of Officers," 325-326 and Chambers *History*, 6.

⁴⁸ Rickenbacker, *Rickenbacker*, 95 and Chambers *Reminiscences*, 25 and 29.

About this time, the squadron also acquired its new training officer, Major Raoul Lufbery. Lufbery was attached, rather than assigned to the squadron.⁴⁹ The men were glad to have Lufbery who was something of a legend among American flyers.⁵⁰

Gervais Raoul Lufbery was born in France in 1886, the son of an American father and a French mother.⁵¹ Although officially an American citizen, he had fought for the French since the war had begun. He transferred to the French Air Force in 1915, eventually earning seventeen confirmed victories. As America stepped up its efforts to create its own Air Service, men like Lufbery – experienced American flyers who had been fighting with the French – were offered commissions and positions of responsibility in the American Army. Lufbery was made a major in the U.S. Air Service on November

⁴⁹ Lufbery's status as "attached" from Chambers Interview, 9. An attached officer could be moved at a moment's notice without the paperwork delays associated with moving an assigned officer. Lufbery's "attached" status was a sign to the men that he probably would not be with them for very long (Chambers Interview, 10).

⁵⁰ The three paragraphs following, describing the life of Raoul Lufbery, are taken from two sources: Bruce Robertson, editor, *Air Aces of the 1914-1918 War* (The Garden City Press Limited, Letchworth, Herts, England), 1959, 99-100; and *New England Aviators, 1914-1918, Their Portraits and Their Records*, Vol I, Schiffer Military History, Atglen, Pennsylvania, 1997, 2-5. Lufbery's rank at the time of his arrival at Villeneuve is confirmed in these sources as well as in the Chambers *History*, 6.

⁵¹ Leaving home at the age of seventeen, Lufbery traveled extensively throughout Europe, North Africa, and the Balkans, before arriving in the United States in 1906. There he joined the Army, serving two years in the Philippines where he was the top rifleman in his regiment. After two years in the Army, Lufbery resumed his travels, visiting Japan, China, and India. In India he made the acquaintance of Marc Pourpe, a famed French exhibition flyer. Pourpe hired Lufbery as his mechanic and for three years the two traveled together. When war broke out in 1914, Lufbery was in France. He wanted to follow Pourpe into the Air Service, but was denied entry because of his American citizenship. Instead, he opted for the French Foreign Legion. On December 2nd, 1914, Pourpe was killed. When Lufbery found out, he resolved to avenge his friend's death and immediately applied for permission to fly. He was given his opportunity on May 17th, 1915, when he was sent to the Chartres flying school. Upon graduating, on July 29th, he was given his brevet. On October 7th, he was assigned to the *Escadrille de Bombardement*, VB 106 where he participated in bombing raids almost daily for six months. In April 1916, his request for transfer to fighter aircraft was approved. Despite some early problems handling the agile Nieuports, Lufbery persevered and graduated as a fighter pilot. On May 24th, 1916, he was assigned to the newly organized Lafayette Escadrille, where he quickly earned a reputation as an extremely capable fighter. He shot down his first enemy aircraft on July 30th and eventually was credited with a total of seventeen victories. Although he had joined the U.S. Army, there were not yet any units available to capitalize on Lufbery's talents. He therefore remained with the Lafayette Escadrille until January 5th, 1918 when he was reassigned to an advisory position at Issoudun for three months before joining the First Pursuit Group in April. (Robertson, et al., *Air Aces*, 99-100.)

7, 1917, immediately becoming America's "Ace of Aces," because he had the largest number of victories to his credit.⁵²

His presence in the 94th was both a source of pride and comfort for the new American pilots. His record was phenomenal, yet he was approachable. Despite the differences in their rank, experience, and prestige, Lufbery quickly became "Ralph" or "Luf" to his friends in the 94th. The novice pilots were eager to learn from him. The fact that he had survived three years of aerial warfare meant that perhaps they would survive as well. They would – if they lasted long enough – follow Lufbery's example and, with his counsel, discover the secrets of his success.⁵³

Having been assigned a barracks, the men quickly staked out their claims to the most desirable quarters. They appointed Chambers, who had decided not to drink while at the front, their bar officer.⁵⁴ It was a good choice. A natural entrepreneur, he learned he could buy champagne in Rheims for twenty-five U.S. cents per bottle. During his short time at Villeneuve, Chambers bought several truckloads of champagne for his thirsty companions.⁵⁵

A few days after its arrival, Major James Huffer arrived to take command of the squadron.⁵⁶ He was an unusual American. Though he spoke English "like a Harvard

⁵² Ibid.

⁵³ Lufbery's stature within the 94th – in the entire Air Service of that day – is substantiated in a number of works: Rickenbacker called him "the greatest pilot of them all" (*Rickenbacker*, 96), and "the most revered American aviator in France" (Edward V. Rickenbacker, *Fighting the Flying Circus*, Frederick A. Stokes Company, New York 1919, 94). Buckley called him, "Lufbery the invincible ... hero of a hundred fights ... victor in countless battles of the air," (Buckley, *Squadron 95*, 60).

⁵⁴ Chambers believed he was given this position because his squadron mates figured a non-drinker would have no reason to dip into their alcohol supply. Chambers, *Reminiscences*, 25-26.

⁵⁵ Ibid., 25-26. The men of the 95th must have envied the 94th their evening libations, as their commander, James Miller, had opted to disallow alcohol at the officers' evening meals (Buckley, *Squadron 95*, 33).

⁵⁶ Lyster, the temporary commander, was moved to a position on the Group staff (Hartney, *Up and At 'Em*, 325).

man," he had been born in France and never lived in any English-speaking countries.⁵⁷

Chambers liked Huffer, describing him as, "a very fine fellow" who was "very popular" with the men.⁵⁸ Like Lufbery, Huffer brought a wealth of experience gained in his service with the French.⁵⁹

During this period, the Group experienced its first casualty. The 95th's squadron commander, Jim Miller, had been on a patrol with friends from another base when several enemy planes shot him down. Rickenbacker, who had worked with Miller at Issoudon, was deeply affected by the loss. He vowed that in the future not to allow himself to get so attached to any of his fellow pilots that their passing might affect his work.⁶⁰ Soon many of his fellow aviators made similar pledges to preserve their sanity.⁶¹

Morale was low in the Group these first days at the front. The men were keenly aware that the Spads they watched the French fly were superior to the Nieuports the Army had purchased for their use. Still, they might have accepted the situation better had they been provided the munitions necessary to begin operations. Sitting idly as they watched the French fight hurt the men's pride. In addition to this, without guns, the men were helpless to avenge their fallen comrade, Jim Miller. This was particularly difficult for the men of his squadron. Shortly after being notified of Miller's loss, the 95th

⁵⁷ Huffer's father had been a banker, representing a U.S. bank in Paris. Huffer entered the war as a driver in the Ambulance Division, transferred to the Foreign Legion and, when Americans were accepted into the French Air Service, transferred again into the American Escadrille. He served with the French on the Western Front and in Italy, flying Nieuports, Farman reconnaissance aircraft, and finally Spads. He scored four victories for the French before being commissioned, as a major, into the Aviation Section of the Signal Corps on November 7th, 1917 (Bruce et al., 103; Hartney, *Up and At 'Em*, 319, 321; and Rickenbacker, *Rickenbacker*, 96). "...Like a Harvard man," from Rickenbacker, *Fighting*, 20 and Rickenbacker, *Rickenbacker*, 96.

⁵⁸ Chambers *Reminiscences*, 33.

⁵⁹ Chambers, *History*, 6.

⁶⁰ Rickenbacker, *Fighting*, 14.

⁶¹ Rickenbacker wrote, "All the pilots of the 94th], I believe, eventually came to look with callous indifference upon the sudden death of their dearest chum. The necessity is to my mind one of the greatest horrors of the war (Rickenbacker, *Fighting*, 108).

received a second blow to their morale; they were ordered to the rear to complete gunnery training. The majority of their pilots left for Cazaux a few days after receiving the orders, leaving the remainder of their pilots temporarily attached to the 94th.

In order to boost morale and give their pilots some additional training, Lufbery and Huffer decided to launch unarmed patrols. It was dangerous, but they reasoned the sector was relatively inactive and that the Germans would not know the planes had no guns and, therefore, might avoid them anyway. The squadron launched the first of these patrols on March 18th, but the practice was halted three days later when the Germans attacked all along the western front. From their airdrome, the Americans wait anxiously for news of their guns or word of a general retreat while guns roared in the distance. On March 30, they were ordered to Epiez, forty kilometers southwest of Toul near the Meuse River and far away from the fighting.⁶²

As disappointing as it was to be removed from the action, the conditions at Epiez were even more disheartening. As Chambers recalled Epiez, it was a "little, tiny field that had been scraped out of some woods, with some just-wooden [sic] barracks around."⁶³ It rained constantly during the 94th's stay there, turning the entire area into a quagmire. There were few opportunities for flying. Mostly the men sat and waited.

Two pieces of good luck brightened the dreariness at Epiez. First, the 94th received word that Captains James Norman Hall, Kenneth Marr, and David McK. Peterson, all former members of the Lafayette Escadrille, were coming to join the unit and serve as the

⁶² The Villeneuve airdrome was turned over to British and French night bombardment squadrons that needed the field (Hudson, *Hostile Skies*, 66).

⁶³ Chambers, *Interview*, 26.

squadron's three flight commanders.⁶⁴ The second bit of good news was the arrival of a massive shipment of supplies and equipment. Although they received plenty of ammunition, spare parts, flying clothing, and even spare planes, there were only enough guns in the shipment to provide for a single weapon on each machine. They were told that additional guns were on the way, but for the moment, one would have to suffice.⁶⁵

After a very short stay at Epiez, mostly dedicated to preparing planes for combat, the 94th received word it was to move to an old airdrome at Toul, where it was to operate as an independent air unit attached to the French Eighth Army. It was to have the distinction of being the first American-trained and -organized squadron to arrive at the

⁶⁴ Hartney, *Up and At 'Em*, "Roster of Officers," 325 and Chambers *History*, 6. The squadron history makes it clear the three flight commanders were all Captains when they arrived at the 94th. The exact arrival date of the three former-*Lafayette* pilots is problematic. Their arrival date is not included in any official squadron histories, only their assignment date – April 8th. Yet it is obvious from both Rickenbacker's and Chambers' accounts that the trio arrived sometime after the pullout from Villeneuve, while the squadron was at Epiez. Most likely, the three were first attached to the Group, and then reattached to the 94th after the 94th received orders to leave for the front. It is also obvious that Hall was still with the 103rd Aero Squadron as late as March 26th. Major Charles J. Biddle recorded in a letter dated March 27th that Hall flew with the 103rd on that date. In another letter, dated May 13th, Biddle wrote, "(Hall) left this squadron about six weeks ago and went to one of the new American squadrons." (Charles J. Biddle, *Fighting Airman: The Way of the Eagle*, Ace Books, New York, New York, 1968 [original edition published by Doubleday in 1919], pages 119 and 134.) Six weeks prior to May 13th would have been April 1st. James Norman Hall had an impressive background. In addition to flying in the French Air Service, he had also published a book, *Kitchener's Mob*, based in part on observations he had made while serving as a member of the 9th Battalion, Royal Fusiliers, British Army, from August 1914 to December 1915. He left the British Army to attend to his ailing father, and later returned to the war, this time enlisting with the French. After flight and gunnery training, he joined the vaunted *Escadrille Lafayette*, earning two victories and serving with honor until the *Escadrille* was converted into the American 103rd Aero Squadron in February 1918 (Robertson, et al., *Air Aces*, 100-101). Hall had been attached to the 95th on February 14th, but was convalescing in Paris following a short stay in an Army hospital there. He was in Paris when the squadron arrived to pick up its Nieuports. He remained in Paris until he was again transferred, this time to the 94th on March 29th (Buckley, *Squadron 95*, 31, Rickenbacker, *Rickenbacker*, 102, Rickenbacker, *Fighting*, 15, and Hartney, *Up and At 'Em*, 325 and 328). Because of transportation problems caused by the German offensive, however, he had been unable to reach the 94th any earlier. James Norman Hall would later become a well-known author. In addition to "Kitchener's Mob," Hall wrote "High Adventure," detailing some of his World War I exploits. Later, with Charles Nordhoff, he wrote the classic, *Mutiny on the Bounty* and its sequels, *Men Against the Sea* and *Pitcairn Island*.

⁶⁵ The single-gun configuration is described in Campbell, *Interview*, 15-16.

front.⁶⁶ The men of the 94th were obviously eager to leave the muddy little airdrome at Epiez. They departed on April 7th, the same day they were notified of the move.⁶⁷

The 94th's new home was the Gengault airdrome two miles northeast of the city of Toul and eighteen miles from the front lines.⁶⁸ Toul was important to the Allies because it was a major railroad center. The enemy understood this too. Toul had become an attractive target for German bombers raiding nightly in an attempt to knock out the rail yards. French civilians living in the area welcomed the Americans joyfully, hoping at last to be rid of the Germans' repeated bombing attacks.⁶⁹

The facilities at Toul were the finest the Americans had seen to date. The officers' quarters and mess facilities were brick, as were many of the maintenance shops and support buildings. Chambers recalled later that it was the first permanent encampment he had seen in France and added that it was, "the last place we lived and had decent habitations until after the war."⁷⁰ In a letter to his parents, he wrote, "We live like Kings while on the ground," though he was quick to add, "but it isn't always so comfortable in the air."⁷¹ Chambers did not want his mother to worry, but neither did he want parents to think that he was not doing his part.

⁶⁶ Chambers, *History*, 7.

⁶⁷ Atkinson, the Group staff, and the ground-support members of the 95th were to stay behind, waiting for the pilots of the 95th to complete gunnery training and readying the remaining Nieuports for combat. The 95th had reported to Villeneuve directly from Issoudon, without completing gunnery training at Cazaux. Although they were disheartened by the delay, they were not going to fulfill that training requirement (Har

⁶⁸ Chambers, *History*, 7, Hudson, *Hostile Skies*, 67, and Rickenbacker, *Fighting*, 19.

⁶⁹ Rickenbacker, *Fighting*, 19, and Rickenbacker, *Rickenbacker*, 102.

⁷⁰ Chambers Interview, 9.

⁷¹ This is from a letter Chambers wrote to his parents on May 9, 1918. The letter has a unique history. Apparently Winnie turned the letter over to the publisher of the local newspaper in Iola, Kansas, who kept it until he died in 1953. His daughter found the letter in her father's personal papers and forwarded back to Chambers, who was then living in New York. This author discovered it among the files in the USAU vaults. It is the only piece of Chambers' wartime correspondence as yet discovered.



Fig. 12. Northwest Europe, 1918.⁷²

On one of their first days at Toul, over the evening mess, a debate broke out about the squadron insignia. It was customary for each squadron to have a unique insignia painted on its aircraft.⁷³ Major Huffer suggested using Uncle Sam's stovepipe hat. Echoing the suggestion, the post surgeon, Lieutenant Paul H. Walter of Pittsburgh, said it could represent Uncle Sam throwing his hat in the ring, symbolizing America joining the fight in Europe. Lieutenant John Wentworth, who had flown the second patrol with Lufbery at Villeneuve, had been a Chicago architect before the war. He drew a proposal for the design. It was passed around and approved by the squadron pilots. In a few days, the image had been reproduced on each of the squadron's aircraft.⁷⁴

⁷² Thomas E. Griess, Editor, *The West Point Military History Series, Atlas for the Great War* (Avery Publishing Group, Wayne, New Jersey, 1986), map number 18. The solid dark line represents the front. Toul, where Chambers was assigned, is located thirteen miles south of the St. Mihiel salient.

⁷³ Guynemer's *Cigognes Escadrille* had its famous storks, the Lafayette *Escadrille* adopted the screaming Indian chief's head, and the men of the 94th wanted something as memorable.

⁷⁴ Chambers, *Interview*, 93-94, Rickenbacker, *Rickenbacker*, 102, and Rickenbacker, *Fighting*, 20

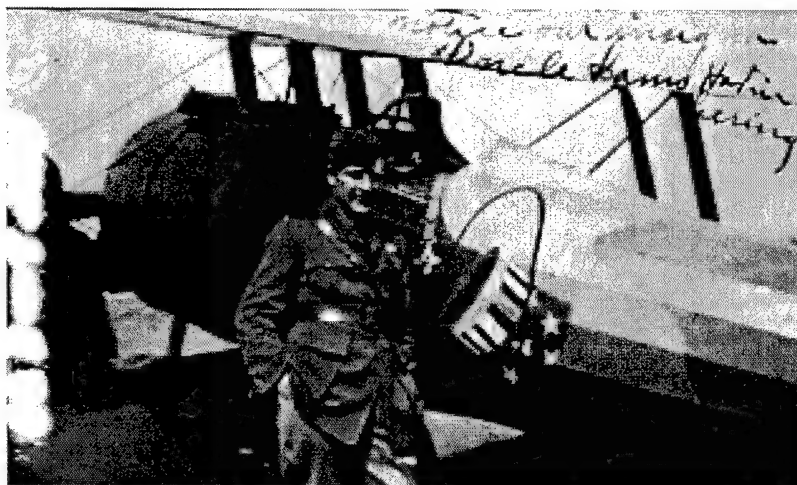


Fig. 13. Chambers beside his Nieuport – Note the Squadron Insignia.⁷⁵

On April 14th, the squadron commenced combat operations. Chambers and Rickenbacker, whom the pilots now called “Rick,” were to fly with James Norman Hall on a patrol over the front lines while Douglas Campbell and Alan Winslow remained on ground alert at the airdrome. Hall was sick that morning, so Peterson led the flight, however, moments after leaving the field, he experienced engine trouble and turned back. Chambers and Rickenbacker continued toward the front alone.

After flying for almost an hour, and encountering no enemy planes, the two became separated in the clouds. A fog bank obscured the ground so that Chambers became lost. Determined not to make another blind landing, as he had done at Issoudon, he flew until he found break, then landed at a French field. Meanwhile, two German pilots had heard Rickenbacker’s motor overhead and took off to intercept, following him all the way back to the Gengault airdrome. Ground observers, however, spotted the pair so that two pilots on ground alert, Campbell and Winslow, were able to take off and intercept the enemy planes almost immediately upon their arrival over the American field. Both of the enemy

⁷⁵ From Winnie Chambers’ Photo Album. This picture is undated, however, the fact that this Nieuport is equipped with only one gun indicates it was taken during the April-May 1918 period. The handwritten caption reads: “Notice our insignia – Uncle Sam’s Hat in the ring.”

planes were shot down, one crashing on the field and the other falling a short distance away. The 94th had achieved its first two victories on its very first day of operations, and Chambers had not even been there to see it.

Toul proved a valuable learning environment for the new American airmen. While there was activity, there was not so much that the inexperienced pilots were overwhelmed. The Germans aided the Americans in their learning by not stationing their most aggressive, talented units in the region.⁷⁶ As Chambers recalled later,

[W]e had a bunch of guys across the lines from us just as stupid, if not stupider than we were, you see? In fact they proved to be much stupider. And fortunately for us, they had no 'hotshots.' The hotshots were over at Chateau Thierry ... fighting the British.⁷⁷

The Americans had time to build their skills and confidence.

By May 2nd the squadron had achieved four victories with no losses. In addition to Campbell and Winslow's victory that first day of operations, Rickenbacker achieved his first kill without having a single shot fired at him. Later, Meissner scored but had a very close call.⁷⁸ After downing his victim, several enemy planes pounced. While diving away from the Germans, the fabric from the upper wing of his Nieuport ripped away. Bringing the crippled plane home took extraordinary flying skill. Rickenbacker survived a similar incident a short time later. It took great effort to maneuver the little French fighter while not exceeding the design limitations for the fragile airframe.

⁷⁶ According to the *Summary of Air Information, Air Intelligence Bulletin* (hereafter referred to as *Intelligence Bulletin*), dated April 2, 1918, the 94th was facing the *Jagdstaffel (Jasta)* 64, based north of Pont-à-Mousson. The entire collection of WWI *Intelligence Bulletins* was declassified after the war, bound, and published as a single volume. There is no publication data on this bound version. The copy employed by this author is filed at the USAF Library, Maxwell Air Force Base Alabama under the call no. 940.4473.

⁷⁷ Chambers, *Interview*, 10.

⁷⁸ 94th RO, May 2, 1918, K183.

Another method the Germans employed to evade their enemies was altitude. Many German reconnaissance planes, particularly high-flying Rumplers, could soar far above the limited service ceilings of allied fighters. Chambers' description of his encounters with Rumplers provides some insight into the dual challenges presented by the German biplane planes and the extreme altitudes:

The Germans were very busy taking aerial high-reconnaissance pictures. And the Nieuport was a good climber, but not near as good as a Rumpier. So every morning we'd get up at daylight – before daylight – and we'd be up in... oh, at eighteen – nineteen thousand feet by daylight... One of the boys said you could see the sun coming up the day after tomorrow when you're up there.

And we couldn't... get a shot at the Rumplers... I had half a dozen of them shoot at me and I'd get the Nieuport just as high as it would go and it would fall off if you moved it at all. Because you had to shoot up. You see those fellows shoot... out of the rear seat – the mapping guy. And the bullets would come... They were fairly slow guns and they'd come popping around at you and you were so doped up with lack of oxygen, you didn't mind it at all!⁸²

Chambers later wrote that all the American pilots were frustrated by their inability to get at these high-flying machines.⁸³ He remarked on their fearlessness in the face of the German observer's fire, explaining, "None of us realized we were slap happy or punch drunk at the time."⁸⁴ In addition to suffering from lack of oxygen, the men of the pilots of that day also suffered from the extreme cold of high-altitude operations. Chambers recalled,

And it was so cold, even though... we had electric flying suits and heavy boots on and that sort of thing, we all got frostbit feet and frozen noses and cheeks. And then we learned... nobody had done this high, protection mission before... we learned by just putting ordinary axle grease on our face – we'd smear our face with grease – all over – and that would keep us from freezing.⁸⁵

knowledge on the Western Front. It is not possible to identify the transmission of tactical knowledge among Allied units. It is likely that Chambers and his companions had access to Deullin's material, either through instructors at Issoudun or at Villeneuve, where the 94th was stationed alongside the *Cigognes Escadrille*. It is equally likely, however, that much of the tactical information covered in Deullin's work was imparted to the men of the 94th by ex-*Lafayette* pilots: Huffer, Hall, Peterson, Marr, and Lufbery. It is likewise obvious that the combat experience of the American pilots supported what they had learned previously.

⁸² Chambers, *Interview*, 13.

⁸³ Chambers to Paul Mason, Oct 5, 1966, USAU archives.

⁸⁴ *Ibid.*

⁸⁵ Chambers, *Interview*, 13.

Before discovering the protective qualities of axle grease, Chambers and his companions routinely peeled a mask of dead, white skin off of their faces after landing. The axle grease could be washed off with no after effects. As for smell, castor-oil fumes from the rotary engines no doubt overpowered any objectionable odors from the axle grease.⁸⁶ Yet axle grease or not, high-altitude fighting posed insurmountable obstacles owing to the Nieuports' lower operational ceiling.

The pressure on Chambers to earn a confirmed kill was entirely self-imposed. Aside from the *Lafayette Escadrille* pilots, only three of eighteen pilots – Rickenbacker, Campbell, and Winslow – had scored a confirmed kill by this point. Despite not having achieved a confirmed victory, however, Chambers was building an excellent reputation within the squadron, both for his flying skills and his judgment. The socio-economic distinctions that separated him from his comrades while they were in training began to erode under the strain of combat. His military experience prior to joining the Signal Corps no doubt helped him adapt to the military rapidly, while his natural salesmanship, judgment, and drive propelled him to leadership positions. He was frequently selected to lead patrols and was well thought of by even the more experienced pilots. Rickenbacker observed in mid May that,

It is half the game to know thoroughly one's partner and his capabilities in air-fighting, as it is in any other accomplishment. Reed Chambers was a daredevil to all appearances, and was always an eager flyer, but I had noticed that he combined a rare caution with his recklessness, making him an excellent and reliable comrade in a fight.⁸⁷

On May 6th the squadron was rocked by the loss of James Norman Hall, though no one took it harder than his old friend Lufbery. The two had served in the *Lafayette*

⁸⁶ Ibid., 13.

⁸⁷ Ibid., 67.

Escadrille together and now Lufbery vowed to avenge his fallen friend.⁸⁸ Two weeks later, on May 19th, Luf ventured too close to an enemy observer's guns and was shot down in flames within sight of the American airdrome. Huffer, Rickenbacker, Chambers and Dr. Paul H. Walter were the first Americans to arrive at the crash site, where Lufbery's body had already been covered in a blanket of flowers, a tribute from the neighboring citizens.

At his funeral the following day, Chambers joined Rickenbacker and three other pilots on a burial patrol.⁸⁹ They circled the small cemetery in formation during the funeral, then one by one they cut their engines and glided just fifty feet over the grave site, dropping flowers as the body was lowered into the ground.



Fig. 15. Major Gervais Raoul Lufbery⁹⁰

The loss of Lufbery, Hall, and several other pilots affected Chambers in two ways. On one hand, he became even more determined to achieve a victory of his own, to exact

⁸⁸ In his interview, Chambers describes Lufbery's feelings for Hall: "J. Hall was Lufbery's god. I mean he was 'the great'... [h]e wanted revenge for Jim more than he wanted anything else in the world." (Chambers, Interview, 15.)

⁸⁹ The other two pilots were the unfortunate Gude, who no doubt relished this opportunity, if only to escape the accusing gazes he might meet on the ground, and Edwain Green (94th RO, May 20, 1918, K187).

⁹⁰ From *New England Aviators, 1914-1918, Volume 1*, page 3.

some measure of vengeance for his fallen comrades. On the other, however, he became more cautious. If the great Raoul Lufbery and James Norman Hall could fall to the enemy's guns, then certainly this Kansas farm boy was at risk too. Chambers seldom admitted to his fear, but it was there. It manifested itself in a number of ways, most notably in his inability to draw close enough to his prey to achieve a kill.

Pilots' tendency to begin shooting too early was widespread, resulting mostly from nervous excitement generated during combat, but also rising out of the pilots' fear of drawing too close to the enemy's guns. In his *Fighter Tactics*, French Ace Captain Albert Duellin recommended that fighter pilots, "fight at the shortest distance possible."⁹¹ He added, "The great majority of successful fights are fought at distance varying from three hundred to thirty feet."⁹² Charles Biddle produced this translation of Duellin's advice:

It would seem, so far as I have been able to learn, that again the majority of these fights have been fought at under one hundred and fifty feet and that this principle of getting to very close quarters has been used by all the most successful French and English pilots.⁹³

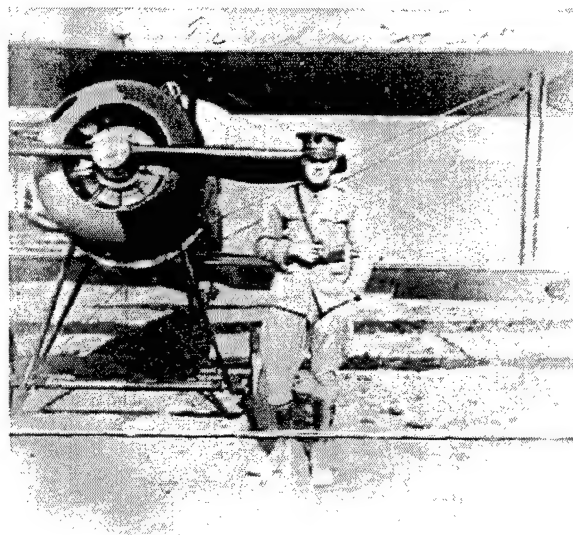
Chambers had observed this in both Rickenbacker's and Lufbery's technique. In fact, in Lufbery's final combat, Chambers watched him draw up so close behind the Albatross that it almost appeared his propeller would make contact with the German's tail.⁹⁴ The key to success was proximity, and the key to proximity was nerve. It took tremendous nerve to get so close to an enemy plane. Caught in the lead aircraft's wake, the pursuer was rocked violently while trying to line up a shot through the gun sight and simultaneously avoiding other planes, friendly or enemy that might interfere. It was hardly second nature.

⁹¹ Biddle, 245.

⁹² Ibid

⁹³ Ibid

⁹⁴ Mitchell, 200-201.



*Fig. 16. Chambers by his Nieuport.*⁹⁵

On May 30th, Chambers added another factor to his list of concerns. On that day, he led a patrol of four planes, leaving the airdrome a little after eleven o'clock in the morning.⁹⁶ Cruising near Flirey, he and his patrol encountered the usual welcoming black burst of German anti-aircraft fire. The pilots routinely disregarded ground fire, as it was seldom accurate. This particular battery, however, was different. It was rumored that an elderly grandfather allegedly manned the gun below, and he was supposedly very good. Suddenly a black burst erupted near Chambers' plane. He heard and felt the percussion, as his little Nieuport was lifted in the air. Within a few seconds of the blast, his motor seized. Chambers started to lose altitude immediately and realized that his precious "coo-coo" had been seriously damaged. He pulled out of the patrol and glided back to his own lines, landing safely behind American artillery batteries at a nearby airdrome. Once on the ground Chambers got out to inspect his plane. He noted the cooling fins, metal projections ringing the cylinders on his rotary motor, had been sliced

⁹⁵ From the Winnie Chambers' Photo Album. The handwritten caption reads: "Me and my 'coo-coo.'" The line across the lower third of the photo is where the photo was folded to mail it home. Although undated, the photograph is obviously from the April-May period since the Nieuport only carries a single machine gun.

⁹⁶ 94th RO, May 30, 1918, K190, and Chambers, *Reminiscences*, 40-41.

off of one cylinder. The same shell fragment had left a slight indentation on the cylinder wall, which had undoubtedly pinched the piston inside, causing the engine to seize. Examining the rest of the plane, Chambers was distressed by a large tear in the bottom of the fuselage very near his seat. Apparently the butt of the shell had penetrated the fabric almost directly below him, exiting about four inches behind his seat. A few inches forward and Chambers would have been killed instantly. His legs began to shake as he realized how lucky he had been.⁹⁷ He called the squadron and reported his situation, then asked the people at Malzeville to help him get a ride home. He returned to Toul that evening.

Despite the fact that Campbell had managed to earn his status as an ace, by downing five enemy planes, and Rickenbacker had scored four, May had been a terrible month for the squadron. Chapman had been killed on the 3rd and Hall had crashed behind enemy lines on the 7th. The irreplaceable Lufbery had fallen on the 19th, followed almost immediately by a new man, Paul B. Kurtz. On the 28th, Willard D. Hill, another new pilot, took an exploding bullet in the leg and was admitted to the hospital. Chambers recalled the losses filled the young pilots with trepidation: "We [were] young fellows who were completely green ... we knew that we were up against a rough job."⁹⁸

On the afternoon of June 1st, the 27th and 147th Aero Squadrons arrived at Toul, finally bringing Atkinson's First Pursuit Group to full strength.⁹⁹ The 27th was commanded by Major Harold Hartney. Hartney had served as a bomber pilot with the Royal Flying Corps (RFC) until he was shot down and seriously injured on Valentine's Day, 1917. He was invalided until September, when he was transferred into the

⁹⁷ Chambers, *Reminiscences*, 41.

⁹⁸ *Ibid.*, 32.

⁹⁹ Details of their arrival and the subsequent celebration are from Hartney, *Up and At 'Em*, 150-153.

American Air Service, joining the 27th Aero Squadron, which was then training in Canada.¹⁰⁰ The 147th was commanded by Major Geoffrey H. Bonnell, another RFC veteran.¹⁰¹ The members of these new American squadrons were as elated to have finally arrived at the front as Chambers and his comrades had been in April. Their arrival boosted morale, though it did not go unnoticed by their enemies.

A few days after their arrival, the new pilots were surprised to receive a greeting from their enemy. A lone German plane flew over the airdrome and dropped a canister containing a photograph of the Toul airdrome. On the back, someone had written, "Welcome 27th and 147th, prepare to meet thy doom."¹⁰²

On June 5th, the expected shipment of guns arrived.¹⁰³ Mechanics and armament officers unpacked and cleaned the guns, preparing to install them on the Group's planes. This was excellent news, but the pilots' joy was tempered when, later that afternoon, the AEF's first American-trained ace, Doug Campbell, took a fragment from an exploding bullet in the back. Like Lufbery before him, Campbell had strayed too close to a German observer's guns. He would remain out of action for the rest of the war.¹⁰⁴ Soon other experienced pilots would soon be leaving as well.¹⁰⁵

¹⁰⁰ Robertson, *et al.*, 105.

¹⁰¹ Hudson, *Hostile Skies*, 76.

¹⁰² Hartney, *Up and At 'Em*, 150. Hartney's response betrayed his long exposure to the dry, British wit: "Clever people, these Chinese!" It was the first aerial photograph he had seen and he admired its clarity; however, aware that it might adversely affect morale, he decided to keep it to himself.

¹⁰³ Both Rickenbacker and Campbell record the arrival of the guns (Rickenbacker, *Fighting*, 134, and Campbell, *Interview*, 15-16)

¹⁰⁴ This combat is described in detail in Campbell, *Interview*, 14-15, and Rickenbacker *Fighting*, 140-144. In Campbell's 1964 interview, he recalled the combat as having occurred on the 6th. The 94th RO, June 5, 1918, K193 and "Official Victories of the 94th Aero Squadron," however, clearly indicate the combat was on June 5th.

¹⁰⁵ This author could not locate the exact date of Campbell's departure. His name is listed on the June 29th Report of Operations (K201) as having flown an alert from the Toul airdrome with Alan Winslow. (Report of Operations [a daily summary of flying and maintenance activities], for the 94th Aero Squadron, were created during the squadron's service on the front and are filed in the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama. Hereafter, they will be cited as 94th RO, with the pertinent date

The squadron received word that its vaunted leader, Major John Huffer, was to be reassigned to the staff of General Mason Patrick, then Chief of the Air Service. He was to be replaced by Major Marr.¹⁰⁶ Of the five experienced pilots sent to guide the squadron in its formative days – Hall, Huffer, Lufbery, Marr, and Peterson – only Marr remained. Further, of the two pilots that seemed to have most quickly adapted to their combat duties – Campbell and Rickenbacker – Campbell was now out of the picture and Rickenbacker had been complaining of high fevers and severe pain in his right ear and neck. If his condition deteriorated further, he too would be pulled from the squadron. The inexperienced replacements the squadron received to take these men's places would slow the squadron's recovery from the dark days of May.¹⁰⁷

and page number.) While this could be an error, a more plausible explanation might be that Campbell flew one last sortie with Winslow, the pair that had scored America's first two aerial victories in the war, before heading home. This would have made a good story for the press. Campbell was not so seriously injured in the June 5th fight that he could not recover and fly again. Senior leaders' desire to bring him back to the United States was based more on the power of Campbell's celebrity status – as America's first ace – than the recuperative benefits of the time at home. It is therefore likely that Campbell was not evacuated from Toul until the Group left for the Chateau-Thierry sector. He would return to the squadron in November, 1918.

¹⁰⁶ Chambers, *History*, 13. Huffer took his Operations Officer, Butcher, along with him. The new Operations Officer was Second Lieutenant Arthur Cunningham. Like Butcher, Cunningham was an excellent interpreter (94th RO, June 6-7, 1918 and "Roster of Officers," 94th History, K29).

¹⁰⁷ Lt. Prinz LeRoy Prinz transferred from the 27th to the 94th on June 6th. Other new arrivals and the dates they arrived for duty are listed below (from "Roster of Officers," 94th History, K26-32):

- Lieutenant John N. Jeffers, June 5th
- Lieutenant Alden B. Sherry, June 5th
- Lieutenant George W. Zacharias, June 5th
- Lieutenant Edwin R. Clark, June 6th
- Lieutenant Robert Z. Cates, June 7th
- Lieutenant William W. Chalmers, June 7th
- Lieutenant Harold H. Tittman, June 7th
- Lieutenant Chester A. Snow, Jr., June 9th
- Captain Hamilton Coolidge, June 17th.

Of these, only Coolidge boasted any practical experience. He had served as one of the first American instructors at Issoudon, then became a test pilot for the Air Service, flying new and modified airplanes prior to their acceptance for military duty. He serviced in this capacity from December 1917 until June 1918, making as many as twenty flights a day. Despite all his time in the air, however, Coolidge had yet to fly a single combat mission (*New England Aviators, 1914-1918, Vol I, 62*).

On the morning of June 7th, Chambers led a four-plane flight north to patrol at seventeen thousand feet along a line running along the front at St. Mihiel.¹⁰⁸

Accompanying him were Lieutenants Green, Smyth, and Alden B. Sherry. Sherry had only been with the squadron for two days. The patrol took to the air just before 0800.

As they were advancing toward their patrol sector, Sherry began to develop motor trouble. He pulled away from the flight and managed to *panne* at Grosrouvre.¹⁰⁹ The three more experienced pilots continued their patrol.

Suddenly behind the trio, Chambers saw bursts of white archie announcing a German airplane was attempting to penetrate the allied lines. He turned to confront the intruder.¹¹⁰ Speeding back, he found two biplace aircraft behind the allied lines. They were heading in opposite directions, but fairly near each other, as if they were changing places on a patrol. Chambers dived on the closer plane. In his haste, however, he failed to note its American markings.

Coincidentally, its pilot, Everett R. Cook, had met Chambers in Memphis before the war.¹¹¹ Now a Captain in the Air Service, assigned to the 91st Aero Squadron, he was piloting the French Salmson. His observer was "Pop" Seymour. The morning of June 7th, they had been assigned to reconnoiter the German rear lines.¹¹² They were supposed

¹⁰⁸ Details of this patrol are from: Funderburk, 173-174; 94th RO, June 7, 1918, K194; and Chambers' Combat Report, 7 June 1918.

¹⁰⁹ 94th RO, June 7, 1918, K 194. *Panne* was French for a forced landing.

¹¹⁰ It is unclear in the accounts why Chambers engaged alone. He might have instructed Smyth and Green to carry on without him, or they might have been unable to keep up. It is highly unlikely that they sat back and observed the combat, as they would have undoubtedly provided information that would have materially altered Chambers' after-action report.

¹¹¹ Everett wrote that Reed Chambers was, "an old friend from Memphis, my home town" (quoted in Funderburk, 174).

¹¹² Everett does not record a date in his account. Funderburk attempted to establish a general time frame: "In the summer of 1918 ... [Brigadier General Everett Cook was then] ... Captain Cook of the 91st Aero Squadron, flying French-built Salmson two-seaters in the St.-Mihiel (*sic*) offensive" (Funderburk, 173). The St. Mihiel offensive opened on September 12th, 1918. Furthermore, Cook records that Chambers was flying a Nieuport. Like the rest of his squadron, he began flying a Spad in July. This author determined

to have left their base at dawn, or just slightly before, but engine trouble had delayed them. Now racing to make up for lost time, cruising at about twelve thousand feet, they were surprised to see an enemy biplane coming directly for them. To the north they could see a single Nieuport, high above them, apparently looking for enemy aircraft. As they watched, it dived toward the approaching German.

Their mission brought them very close to the Hun, so close that they anticipated getting in a few shots of their own. At least they would see an excellent show as the Nieuport took on the German plane. Their attention was suddenly diverted away from the plane by a burst of tracers streaking across the sky in front of them and penetrating their right wing. They looked up to see the Nieuport diving on them. Cook kicked the ship around to approach the Nieuport head on and, without thinking, opened fire.

Chambers was no doubt impressed by this Hun's aggressiveness, coming at him head on over allied lines. He rolled into a steep dive, so he could pull up under the enemy plane's tail.

Cook thought he might have downed the Nieuport – an idea that did not particularly bother him at that moment. Just in case, however, he pushed his Salmson into a spiral. If he had not eliminated the threat, this maneuver would allow him and his observer to keep an eye on the unpredictable friend-foe. The Salmson crew soon spotted the Nieuport again, climbing towards them. Through the telephone connection, Pop Seymour kept asking, “must I shoot him? ... must I shoot him?”¹¹³

the date of the event described above by comparing Chambers' submitted combat reports to the events relayed by Cook. The only report that matched was filed on June 7th.

¹¹³ Funderburk, 174.

There had been rumors that the Germans were flying captured enemy planes. Perhaps this was a German in disguise. Cook directed Seymour to wait and hold his fire. He wanted to see what the Nieuport would do.

According to Chambers' account, he attacked the intruding aircraft twice before it dived in a spin and headed back to Germany. He then returned to finish his patrol.

After returning from their patrol, Cook and Seymour wanted to find out what had happened. Their major took them over to the First Pursuit Group airdrome where the truth came out. Apparently Chambers had never realized his mistake, as evidenced by the fact that he filed the report. Cook was sympathetic: "He must have been surprised and nervous when he saw a machine coming out of the sun and [so he] didn't stop to investigate."¹¹⁴ In his diary, however, Cook was more direct: "If he ever meets a Boche in the air he will have to do better or he will never get one."¹¹⁵

Rickenbacker returned from a voluntary solo patrol about an hour after Chambers' flight landed. He had been up around sixteen thousand feet, trying to shoot down a Rumpler. After landing, his fever rose steadily throughout the day, coupled with excruciating pain in his right ear. That evening he was sent to Paris on leave, to recuperate.¹¹⁶

In Paris, Rickenbacker observed the impact of the latest German push into France, the third of 1918.¹¹⁷ The Germans launched their first blow against the British on March 21, in the vicinity of the Somme. They drove a deep salient into the British lines before they

¹¹⁴ Ibid.

¹¹⁵ Ibid. The two men remained friends for the rest of their lives. They relayed the story of this encounter at the Chickasaw Guards' 45th annual reunion at the Peabody Hotel in Memphis (Louis Silver, "Tracers Over France Streak Again at Reunion," *Commercial Appeal*, November 12, 1963.

¹¹⁶ Rickenbacker *Fighting*, 150, and *Rickenbacker*, 113 and 117.

¹¹⁷ Rickenbacker, *Fighting*, 150-152.

were stopped by a counterattack by allied reserves on April 5th. A second offensive, also against the British, was launched at Lys, twelve miles south of Ypres, on April 9th. Again the British held, stalling the German offensive on the 29th.¹¹⁸

The third German blow, against the French, was launched on May 27th. They attacked along a twenty-five-mile front capturing the Chemin-des-Dames and arriving at the Marne River at Chateau-Thierry. Originally intended as a diversionary attack, to draw French reinforcements away from the British so that the British might subsequently be knocked out of the war, the situation on the Marne opened new possibilities for the German General Staff.

The Germans had driven a wedge thirty-two miles wide, from Reims to Chateau-Thierry, into the French lines.¹¹⁹ They were poised along the Marne River in artillery range Paris. The Americans rushed the 2nd and 3rd US Divisions in to help the French stem the tide. The Americans fought in the streets of Chateau-Thierry then withdrew across the Marne. There they held firm, turning back every effort the Germans made to cross the river. The German Army was then poised along the Marne River, just fifty-six miles away from the capital. Paris was full of refugees fleeing the German advance.

¹¹⁸ Hudson, 90-91.

¹¹⁹ Ibid.



Fig. 17. The German Spring Offensives, 1918.¹²⁰

Back at Toul, all attention seemed to be turning north, toward the attacking Germans. The enemy was pouring forces into the salient to capitalize on breach while the allies were doing the same to contain it. Correspondingly, operations slowed in the Toul Sector.¹²¹ They had engaged in only one combat in the nineteen patrols they had flown that second week of June.¹²²

Rickenbacker returned to the squadron on the afternoon of June 12th. By the 14th, rumors were rampant that the 1st Pursuit Group was going to move to the Chateau Thierry sector to help stem the tide of the German onslaught there. It meant more activity, but also more danger. Chambers observed that all of Germany's "hotshot" pilots were at Chateau Thierry – Richthofen's outfit was still there. Baron Manfred von Richthofen

¹²⁰ S.L.A. Marshall, *The American Heritage History of World War I* (American Heritage publishing Company, Inc., 1985), 269. The Toul airdrome does not appear on this map, but is located southeast of St. Mihiel, and south-southwest of Metz.

¹²¹ 94th Aero Operations in this paragraph are from 94th RO, June 8-11.

¹²² Hartney, 157.

was Germany's top ace. He and his squadron of expert pilots had built a reputation as one of the most formidable fighter units on the front.

From the battle zone, the pilots received word that the Germans had changed their tactics. First, they increased the size of flights, patrolling in larger formations than ever before.¹²³ Where the allies had formerly encountered flights of four to eight machines, there were now reports of entire German squadrons – as many as twenty planes – flying in formation. Additionally, protective flights, escorting reconnaissance, were often employed in ground attacks whenever allied fighters were absent.¹²⁴ In response to these reports, the 94th decided to begin formation training. On the 16th Chambers and Rickenbacker led a flight of fifteen planes to practice these skills.

The next few days continued to be slow ones for the 94th. Poor weather and a lack of German activity in their sector conspired to keep the men on the ground, no doubt anxious for their next combat opportunity. When they could fly, Rickenbacker led the pilots in practicing formation flying. There was very little enemy activity in the Toul Sector. The action was all to the north, around Chateau-Thierry. That was where Chambers and his friends would soon be headed.

¹²³ Rickenbacker, *Fighting*, 154 and *Intelligence Bulletin* dated June 23, 1918. German prisoners captured during this time reported the Germans had set the desired air strength for various operations as follows: Pursuit flights, 18 planes; protective flights, 12 planes; bombing missions, 12 planes; and reconnaissance missions 9 planes for division-level operations and 6 for all others. (*Intelligence Bulletin*, dated July 6, 1918).

¹²⁴ *Intelligence Bulletin*, dated June 23, 1918

Chapter Three

War: The Fighter Emerges

Phase Three: Dark Days at Chateau Thierry

Late in June, the First Pursuit Group received word it was to move north.¹ They were to be located halfway between the embattled front lines and French capital, part of the force being assembled to thwart the massive German push on Paris.² The majority of the move would be conducted at night, so the Germans would not immediately detect their presence at their new base. Because of technical limitations, however, the planes would have to be flown north during daylight, with small flights staggered throughout the day so that anyone watching might think these were just a series of patrols or alerts. More experienced pilots from the 94th and 95th would lead pilots from the 27th and 147th,

¹ According to the 94th *History* (K5) and Chambers *History* (13), the Group moved on the 29th. In his book, however, Hartney claims elements of the 127th Aero Squadron began moving on the 25th (Hartney, 166). Probably both accounts are correct. The 94th *RO* indicates air operations continued at Toul until June 30th and began at Touquin on July 1st. Certain ground elements were sent ahead of the pilots to set up hangars and shops before the aircraft arrived. This arrangement is confirmed in Mitchell's *Memoirs*, page 208:

I organized the movement of our air units from Toul to the Chateau-Thierry district into three echelons, a part from each group going ahead to the airdromes to which the planes were to fly, to prepare for their coming. The airplanes were then flown directly to their destinations, where the squadrons found arrangements already made for them and most of their mechanic personnel on the ground.

² The Group Operations Officer, Captain Phil Roosevelt, briefed the four squadron commanders on the situation:

Gentlemen, we are about to be flattered and honored with some action. The German army, in desperation but with complete organization and consistency, is about to make a stupidly belated drive on Paris. Already some vital units of the civil government in Paris have been evacuated. The German attack will take place some time around the middle of July. The First American Pursuit Group has been chosen to join its gallant French and British flying comrades in the coming battle. We will be stationed halfway between the apex on the front lines and Paris and we'll do our job to the best of our ability (Hartney, 164-165).

as well as novice pilots in their own squadrons, to the new field.³ They were to land at the airdrome at Touquin, near the town of Saints.

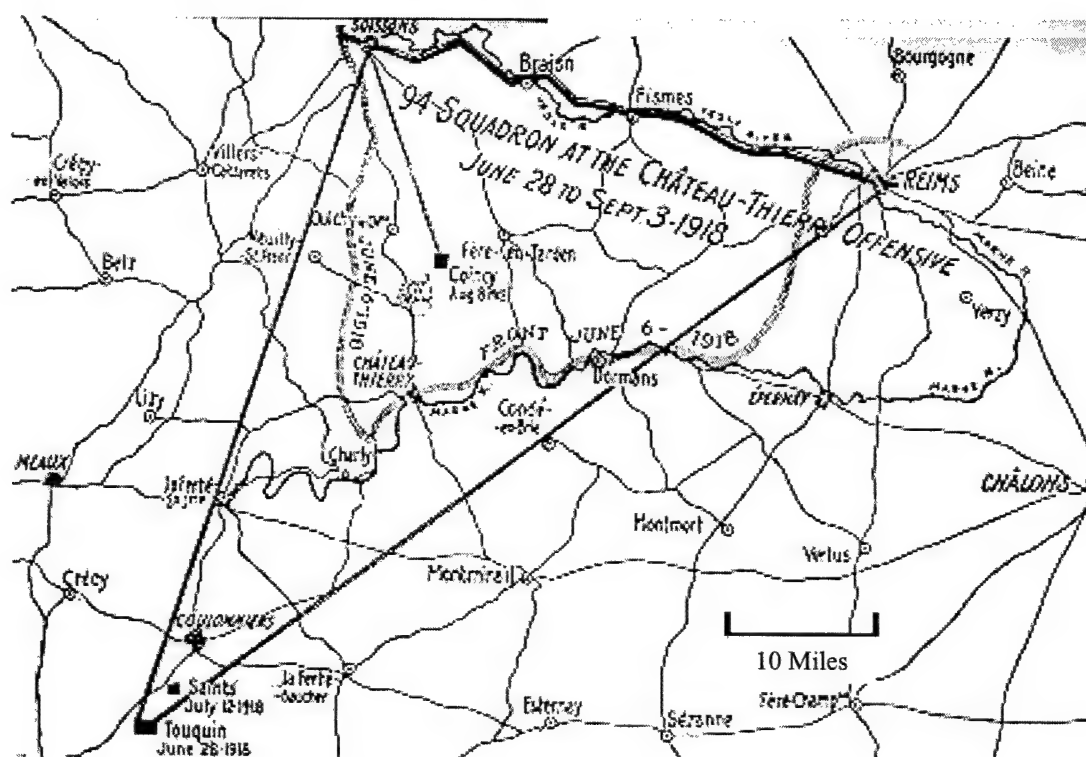


Fig. 18. First Pursuit Group at Chateau-Thierry.⁴

On the 29th, the Group began flying its one-way patrols to Touquin. There the 94th found lodging in an abandoned chateau, a few miles south of the field. Although vacant since the German offensive in August of 1914, the building was beautifully furnished and surrounded by attractive scenery.⁵ Rickenbacker did not get to experience the opulence of the 94th's chateau. He had taken ill in the flight from Toul and was shivering when he landed. He reported to the doctor and was immediately hospitalized.⁶ He would be missed, not only for his combat skills, but also for his confident leadership. The new surroundings were hardly a welcoming sight.

³ Rickenbacker, *Fighting*, 179.

⁴ *Ibid.*, 181.

⁵ Rickenbacker, *Fighting*, 178-179.

⁶ *Ibid.*

At Toul the Americans had enjoyed a pastoral setting; green fields interrupted by the single, ugly scar of entrenchments and artillery craters. Here, the ground was shattered so that, according to Harold Buckley, it resembled a hell on earth.⁷ Throughout the vicinity, the terrain was being constantly churned in the armies' ongoing artillery duel. Whole towns were destroyed as the pilots watched. Clouds of ash and dust often blotted out the sun to an altitude of twelve thousand feet. And above the swirling dust and debris huge concentrations of Fokkers hunted their American prey.

Before their move, the Americans had faced only a few poor-quality pursuit units and some reconnaissance squadrons. At Touquin, they faced the best of the German Air Force.⁸ Additionally, the Germans had been steadily replacing their aging Albatros and Pfalz designs with two new Fokker models. The Dr. I was a very light, very nimble triplane that required incredible skill to outmaneuver. It had first been introduced in 1917, but was reserved for the more active sections of the front. Even more dangerous, however, was the Germans' new Fokker D. VII, just coming on line in that summer.

The D.VII may well have been the finest mass-produced fighter of the war.⁹ It was sturdier, faster, and more forgiving of its pilots' errors than the Americans' fragile

⁷ From Buckley's description, 81.

⁸ *Jagdgeschwader* Number 1 (*JG 1*), a formidable force, was stationed at Coincy, just north of Chateau-Thierry.⁸ Included in this unit were four top-notch flights (*Jagdstaffel*, or more often, *Jasta*) of seasoned veterans, including the distinguished Richthofen *Jasta*, which was now under the command of Captain Hauptman W. Reinhard, who had 20 victories to his credit.⁸ This unit was easily recognizable by the scarlet noses of its aircraft. Coincy was also the home of *JG 2*, commanded by Oberleutnant O. Frhr von Boenigkm who had 26 victories. The aircraft in his unit had the bottom of their fuselages painted bright yellow. Near St. Quentin was *JG 3*, commanded by Captain Bruno Loerzer, who had scored 41 victories. This German order of battle is compiled from Mitchell, *Memoirs*, 209, Rickenbacker, *Fighting*, 191, and Robertson, *et al.*, 183-184 and 194-195.

⁹ "...Probably the best pursuit plane on the front" (Mitchell, *Memoirs*, 210). "The D7 was, and still is, widely regarded as the best fighter airplane of World War I" (John Morrow [*The Great War in the Air*, Smithsonian Institution Press, Washington D.C., 1993], 301).

Nieuports, and could outclimb every other plane on the front.¹⁰ Chambers recalled that of the German airframes, the D.VII was “the fastest – the best job they had at the end of the war.”¹¹ The Americans would have to outmaneuver their faster rivals if they were to survive future encounters with the Germans. There was certainly no hope of outdiving the powerful D. VIIIs.¹²

In accordance with Group instructions, the first American patrols in this sector were to remain well behind the lines. These were to be familiarization flights, designed to acquaint the pilots with their new surroundings. Hartney had warned his men,

Get into the air and look around. Get to know every foot of ground for thirty miles on every side of the airdrome. You'll run into early morning ground haze but you must be able to get back even if you skim the treetops.¹³

Apparently this advice reached Chambers in some form, since he set up a series of familiarization patrols for his pilots as well. With Rickenbacker out of the fight and Marr off on frequent jaunts to Paris, day-to-day squadron operations while on the Chateau Thierry front often fell to Chambers, in his capacity as the senior flight commander.¹⁴ He set the flying schedule, assigned pilots to flights, prepared orders, filed reports, and continued to fly missions. The strain of these additional duties wore on him and increased his disdain for the absent Marr.¹⁵

Despite poor weather, the 94th launched its first patrol in the new sector on the afternoon of July 1st.¹⁶ The six-plane patrol, led by Meissner, was jumped by six Fokkers. Meissner's patrol fell apart in the attack. He was able to rally three of his

¹⁰ The plane possessed, “an apparent ability to make a good pilot out of mediocre material” (Morrow, 300-301).

¹¹ Chambers, *Interview*, 17.

¹² Hudson, 105.

¹³ Hartney, 167.

¹⁴ Chambers was acting as Rickenbacker's replacement, commanding First Flight. In this position, he also served as the acting squadron commander during Marr's frequent absences.

¹⁵ Chambers, *Reminiscences*, 45, and Chambers, *Interview*, 17.

¹⁶ 94th RO, July 1, 1918, K203 and Combat Report of Lt. Meissner, July 1, 1918.

pilots to drive the Fokkers away, but Tittman and Cates disappeared in the melee. No one had seen any Nieuports crash, so it was hoped the two were merely lost and would turn up shortly. Later they learned that Cates had *panned* at another field and would be back before dark, but Tittman was still missing by nightfall.

Two days later, when the weather was too bad for flying, Chambers went out in search of Tittman.¹⁷ He drove to an American hospital and went inside to ask about his missing pilot. From an orderly, he learned his pilot had been shot down from behind and, upon attempting to land, had hooked the wheels of his undercarriage on a low stonewall. The plane had tumbled across a field, breaking into fragments along the way. Tittman had been removed from the wreckage, barely alive, and brought to the hospital. Because of the waves of dead and dying the hospital had been receiving from the front, everyone had been too busy to make any notifications. Chambers was directed to Tittman's bedside. It was like walking through a nightmare. Everywhere there was broken, moaning men and the smell of death. He noted the corpses of American soldiers "stacked up just like cordwood" along the walls.¹⁸ He found Tittman awake and lying in his bed. He was in terrible shape. Chambers recalled that Tittman was "out of his head," but insisted on knowing if he had gotten the "Hun" that had gotten him. Chambers assured him he had and tried to talk to the young officer for a while, but it was no use. The wounded pilot became incoherent, moaning and convulsing in pain. Convinced Tittman was going to die, Chambers left his pilot in the hospital and made his way back to his plane.¹⁹

¹⁷ Chambers, *Reminiscences*, 44-45.

¹⁸ *Ibid.*, 44.

¹⁹ Tittman did not die. He lost a leg, but survived the war, later joining the State Department and eventually serving as America's Ambassador to Peru (Chambers, *Reminiscences*, 44).

Although he did not admit to any change in his memoirs, it is apparent that seeing Tittman profoundly affected Chambers. His own mood darkened affecting both his own combat abilities and, because of his leadership position, those of his squadron as well. In the weeks ahead, the 94th would fly fewer combat missions, achieve fewer victories and experience fewer losses than the three other squadrons. Eventually this would lead Harold Hartney, who would replace Atkinson when the latter was pulled to the Air Staff, to relieve Marr in hopes of reawakening the fighting spirit in the 94th.

On July 4th, while still recuperating in Paris, Rickenbacker summoned Chambers to accompany him on a trip to look at some new prototype fighters. Perhaps spurred by the celebrations the French were planning for their newest allies' Independence Day, Chambers accepted the invitation. He took a train to the capital to see his friend. While climbing in and out of the different airframes, however, he suddenly developed extremely painful stomach cramps and became nauseous.

Rickenbacker took his friend into town, putting him up at the Meurice Hotel, and then called an American doctor who thought it might be an attack of appendicitis. The doctor was not sure, however, because the pain was too generalized across Chambers' entire abdomen. He deferred making his final diagnosis until the following day.

The next day, July 5th, the doctor returned. By this time the pain had localized in Chambers' lower right abdomen. The doctor showed how the pain could be significantly reduced when he had Chambers pull his right knee close to his chin, a telltale sign of appendicitis. The doctor advised his patient to go to the hospital for an appendectomy, but Chambers refused. He had never had an operation before and believed an appendectomy to be a fairly serious procedure, one that might result in his

death. He wanted to stay and rest for a few days at the hotel, to see if the pain would subside.

Upon learning of Chambers' condition, Atkinson dispatched the 94th's Squadron surgeon, Dr. Paul H. Walter, to check on the ailing pilot.²⁰ He told Walter to relay a message: either go to the hospital for surgery or get back to the front. Chambers' decision was instantaneous. The pain had abated significantly, so he decided to return to Touquin with Walter. For the remainder of July Chambers recalled having several repeat attacks of pain, but none as severe as that first attack. He kept news of these later attacks to himself, for fear of being sent to the rear for surgery.

Noting his friend's improved condition, Rickenbacker decided to go down to Orly to check on the status of the Americans' promised Spads. On the field, he met a few mechanics working on three of the gleaming, new airframes. He asked if these were the planes for the 94th and was assured they were. He asked if they had been tested and was told, "Yes sir – All ready to go to the front!"²¹ Without hesitating to think of the legal consequences of his commandeering an aircraft without orders, he assured the men that he was in fact a pilot from the 94th, here to collect a machine. He climbed in, started it up, and flew for Touquin.

Arriving at the American airdrome, Rickenbacker was immediately surrounded by his eager, envious comrades. He explained to his friends that two more Spads were awaiting them at Orly and that the rest would arrive there shortly. Everyone was

²⁰ It is interesting that Atkinson, the group commander, directed the squadron surgeon to make this trip. In doing so, Atkinson appears to have been tolerant of Marr's lack of leadership. In this instance he essentially covered for his squadron commander by making decisions that were obviously Marr's responsibility. Also, the fact that Atkinson was so concerned about his condition supports Chambers' impression of his own importance in running the squadron during Marr's tenure as *de jure* squadron commander.

²¹ Rickenbacker, *Fighting*, 187.

overjoyed. The new machines were coming. Now they would face their skillful adversaries on more equal terms.

Always lucky, Rickenbacker escaped the wrath of authority for his taking the plane. When Marr arrived at the airdrome, he merely assigned the new Spad to Rickenbacker, never commenting on the process through which it was acquired. The leader of First Flight was back and, with his team of mechanics, quickly set about the task of transferring the guns from his Nieuport to his new mount. He was eager to fly his new plane.

The days at Chateau Thierry changed the American pilots. No longer were they confident and brash. Their lack of experience and the inferior quality of their Nieuports seemed insurmountable obstacles in the face of Germany's most experienced and best-equipped air duelists.²² Many of the German pilots they faced had single-handedly scored more victories than all of the pilots of Atkinson's Group combined. Chambers recalled the morale was very low.²³ The somber mood is reflected in the Squadron History.

Throughout the Chateau-Thierry campaign, the Boche seemed to have the jump of the ground and in the air. Our inexperienced and new Squadrons were pitted against Germany's best fliers and in almost every combat were heavily outnumbered. The Boche was always aggressive and attacked at every opportunity.²⁴

While any foray into the skies was dangerous, most deadly of all were the protection patrols. The American commanders on the ground had to know where the Germans were amassing men and materials, so they called upon the air reconnaissance units to get that information. As the Germans were preparing for a massive offensive across the Marne, they were just as anxious to deny the allies any insight into their plans. Reconnaissance flights became prime targets for the German flyers. They threw

²² Hudson, 96.

²³ Chambers, *Reminiscences*, 45.

²⁴ 94th History, K6.

everything they had at the slow, clumsy observation planes. All that stood between these observation planes and destruction at the hands of the skillful German pilots were the fighters of Atkinson's Group. On July 5th, Alan Winslow was brought down while on a protection patrol. His plane was wrecked but he returned to the squadron ready to fly again.²⁵

Men began to dread clear days because it meant reconnaissance activity and protection patrols. Buckley wrote, "Protection patrols became the synonym for sudden death and when dawn broke on a really perfect day, the only doubt in our minds was which of us would be the one to get it."²⁶

Chambers detected similar feelings in his own Squadron. He recalled that morale hit a low point in early July.²⁷ On the 7th, Lieutenant Chalmers, who was celebrating his first month with the squadron, was shot down. The twelve-plane patrol had been jumped by a swarm of Fokkers. Inexperienced, Chalmers had allowed himself to get detached from his comrades where he was attacked by several German machines, and was last seen diving out of control.²⁸ Later that day, Hamilton Coolidge earned his first victory, shooting down a Rumpler that was flying well behind enemy lines, but this did little to brighten the squadron's dark mood.²⁹

On the 10th, Rickenbacker returned from a high-altitude protection patrol across the lines complaining of excruciating pain in his ears. Believing he had severe infections in

²⁵ 94th RO, July 5, 1918, K203.

²⁶ Buckley, 84. Hudson concurred that protection patrols limited the fighters' maneuverability, a key strength for the Nieuport. Later, observation squadrons started providing their own protection, by having a lead ship conduct reconnaissance and other ships fend off attackers. This freed the fighters for offensive operations, for which they were better suited (Hudson, 96).

²⁷ Chambers, *Reminiscences*, 45.

²⁸ The squadron later received word from the Red Cross that Chalmers had survived his crash and was made a prisoner by the Germans (94th History, 14).

²⁹ "Official Victories of the 94th Aero Squadron"

both ears, the Squadron surgeon sent him back to Paris to have his eardrums lanced.³⁰

He would remain out of the fight for most of July. Since Marr was also gone most of the time, it fell on Chambers to deal with the pilots' morale.

Shortly after Rickenbacker's departure, Chambers called his officers together to discuss their concerns. He met their fear with humor. "Look," he said, "we're going to live to be killed by an automobile when we get back to the States, so let's go out and go after them."³¹ In the days ahead, he continued to joke with the men, in an attempt to keep their spirits up, but his approach was not very effective. For one thing, he was experiencing a lot of doubts himself, about both his own safety and the safety of his charges.

The 94th began receiving its new Spads the second week of July. The transition to the new airframe required familiarization flights, which consumed a great deal of flying time and kept the 94th well behind friendly lines.³² The Spads were sturdier and faster than the Nieuports, but also much less maneuverable and more difficult to land. Instead of cutting the motor and gliding in – the "suicide glide" technique used in the Nieuport – the Spad had to be flown all the way to the ground. Cutting the power in a Spad resulted in a steep descent, followed by the plane flipping over, either because the undercarriage

³⁰ Rickenbacker, *Fighting*, 197.

³¹ Chambers, *Reminiscences*, 46.

³² 94th History, K5 and 94th RO, July 5-17, 1918. The RO reveal an unusually large number of test flights, obviously familiarization flights for the Spads. Hudson made a similar assertion in his book *Hostile Skies*, though he also pointed to the loss of experienced combatants as a possible contributing factor for the squadron's relative inactivity.

During the Chateau-Thierry campaign the "Hat-in-the-Ring" squadron played a less decisive role in the actions of the group than it had performed in the Toul sector. Perhaps the most important reason for this relatively quiet role was the fact that it received the new Spads in July and was in the process of making the transition from the Nieuport. Another factor may have been that some of the squadron's top pilots were now out of action (Hudson, 99).

became lodged in the ground, or as a result of the bounce. As Chambers later recalled, the Spad glided “like a brick.”³³ He had additional reason to thank his old flying instructor, Fish Hassell, for the extra care he had taken in teaching his charges how to land properly. Others were not so fortunate. There were many accidents as the Americans of the First Pursuit Group changed over to their new airframe. A few were even fatal. Chambers recalled:

I had no trouble [converting to the Spad]. Some of the other guys had a lot of trouble with them. We lost two men there – coming in too slow, hitting, bouncing over, and taking the tops of their heads off.³⁴

Still, the fact that the 94th was the first squadron to switch airframes kept them out of the skies during some of the most dangerous days of the air war to date. That alone was adequate cause to rejoice at the new planes’ arrival.



Fig. 19. Chambers on his Spad.³⁵

On the evening of July 7th, a flight of twenty British Sopwith Camels landed at the Touquin airdrome. The pilots explained to the Americans that the following day the

³³ Chambers, *Reminiscences*, 14.

³⁴ Chambers, *Interview*, 17.

³⁵ From Winnie Chambers’ photo album. In her hand, below this picture, was written, “2nd plane issued to 94th Squadron, July 1918. Reed and his machine.”

entire British 5th Brigade was coming to take over the airfield. As predicted, the sky was filled with over a hundred British airplanes early the next morning. Huge Handley-Page bombers descended alongside Bristol and Sopwith Camel fighters, until the whole Brigade was on the ground. General “Boom” Trenchard was commanding. He explained to Atkinson that the Americans had to move. They were heading three miles closer to the front, to the little airfield outside of Saints.³⁶ The men were not pleased to be leaving Touquin. For the newer pilots, they were leaving the finest quarters they had known since joining the Army.³⁷

Things did not immediately improve for the Group at the new airdrome. For one thing, they lost Quentin Roosevelt, the popular son of former-President Teddy Roosevelt. Quentin had been flying with the 95th when a German Fokker shot him down on July 14th. Chambers liked the young Roosevelt, enjoying both his recollections of growing up in the home of the irrepressible ex-President, and with his own mess-time antics. Chambers recalled one trick for which the young Roosevelt was famous.

Quent was the only person I've ever seen who had a sword-swallower's throat. Actually. I mean he could take a bottle of champagne, pull the cork, and he'd hold it like this – stretch his neck – and he'd let the champagne – a whole quart of champagne – run right down him without ever swallowing. It would just run right in him. And he'd do it – well, he'd do it twice in an evening, if you'd buy the champagne. I've never seen anyone else who could do that.³⁸

According to Chambers, morale began to lift when the Germans finally unleashed their long anticipated drive on Paris the morning of July 15th. Shortly after midnight, German artillery lit up the sky to the north. The pilots at Saints watched the pyrotechnic display, feeling the reverberations of the big high-explosive shells, even though they were miles away. The Germans were softening up the defenders, preparing for a push

³⁶ 94th History, K7, Chambers, *History*, 14, and Hartney, 174.

³⁷ Ibid.

³⁸ Chambers, *Reminiscences*, 44.

across the Marne.³⁹ Billy Mitchell called Atkinson and warned him to “have everything ready to operate by daybreak.”⁴⁰

Deprived of accurate reconnaissance data by the heavy fighting on the front, Mitchell convinced the commander of the French air forces in the sector, to let him fly a lone reconnaissance patrol to ascertain where the Germans’ main thrust was falling. Mitchell then headed to the First Pursuit Group to borrow a plane and fly north. He arrived at Saints before dawn and was in the air just as the sky was beginning to lighten. Flying north, he discerned that the Germans were trying to cross at Dormans, an obvious attempt to protect their right for a thrust at Reims. Mitchell hurried back to Saints. Upon landing, he ordered the entire Group out to attack the bridges.⁴¹

Although Chambers and his fellow pilots had practiced strafing ground targets at Cazaux, this was the first time they were being ordered to fly a mission purely in direct support of ground forces.⁴² Nevertheless he followed orders, leading his squadron toward Dormans. When he arrived, he saw below him five pontoon bridges, over which hundreds of German soldiers were marching in close formation. Chambers directed his pilots to line up behind him and went in with guns blazing. The Americans’ twin thirty-caliber Marlin machine guns, firing at 600 rounds per minute, made short work of the German advance. Chambers recalled the action later:

³⁹ Hudson, 100.

⁴⁰ Mitchell, *Memoirs*, 220.

⁴¹ *Ibid.*, 220-222.

⁴² Because all of the combatants recognized that this war was basically an infantry and artillery struggle, airpower had been relegated to a supporting role. Aircrews supported ground operations indirectly, through gaining intelligence information and denying similar information to the enemy. As the war progressed, however, ground leaders saw increased applications for airpower to aid them on the ground, through strafing and bombing enemy defenses and troop concentrations. Although some visionaries, such as Hugh Trenchard, Billy Mitchell, and Wilhelm Siegert, saw other, independent applications of airpower, their limited efforts in strategic bombing had very little impact on the overall outcome of the war.

[The Germans] had made a pontoon bridge across there, and they got a slight bridgehead on the opposite side of the Marne. We were ordered out to strafe them as they marched across, and I led the whole squadron on the first run. And these fellows, the Germans, were marching just as close together as they could across this pontoon bridge, and we just clobbered them. I mean, we must have killed two or three hundred of them in the whole group together. That stopped the show. The other planes would come in behind, and they then started putting their men across in single file and far apart, and by that time we got our infantry and stuff up there to the point where they surrounded them. That's the only time they ever got across the Marne.⁴³ And that was stopped before noon that day.⁴⁴

In 1967, Chambers shared his feelings over this mass killing.

Shooting a guy down has got to be done, but this is brutal. And I moved down with both guns going, right down the middle of them. Just [to] see them roll over like cut wheat... I imagine... I killed probably a hundred – a hundred fifty men that day. Wounded them, I mean.⁴⁵

After each squadron hit the bridges, it returned to Saints to refuel, rearm, and return to the attack. Hartney recalled that he finally had to cancel any further flying for his squadron, simply because the planes were too shot up by ground fire to risk any further attempts.⁴⁶ But the Americans' efforts had stopped the advance. Those few Germans who did make it across the bridges were quickly isolated and captured or killed. From Hartney's point of view, this was, "the climax of the war."⁴⁷

Although the next few days were hectic for the other three squadrons of the Group, the 94th settled into a kind of repose that is difficult to explain in light of the intense activity going on all around them.⁴⁸ Certainly some of the inactivity can be attributed to the switch to the new machines. The Spad was a much more difficult plane to fly, even without having to contend with bands of roving enemy fighters simultaneously. The fact

⁴³ Obviously Chambers is only referring to the 1918 offensives. The Germans crossed the Marne in 1914.

⁴⁴ Chambers, *Reminiscences*, 46.

⁴⁵ Chambers, *Interview*, 18.

⁴⁶ Hartney, 181.

⁴⁷ *Ibid.*, 180.

⁴⁸ Hartney recalled that the men of the 27th were on duty from eighteen to twenty-one hours a day (Hartney, 183). Hudson wrote, "The 94th 'Hat-in-the-Ring Squadron, almost completely equipped with Spad 13s, seemed in a strange state of lethargy throughout the period" (Hudson, 112).

remains, however, that the 95th began receiving their Spads on July 17th and finalized the change in minimum time. Buckley recalled:

Within twenty four hours the entire squadron was operating in Spads, a splendid piece of work.... Two guns for each plane had to be tested, mounted and armed. All motors tested and the planes themselves lined up; the whole squadron worked all night to accomplish the task.⁴⁹

Another reason for the 94th's relative inactivity was fatigue. Its pilots had been flying combat missions since April 14th, three weeks longer than the 95th, and almost two months longer than the 27th or 147th. The phenomenon of combat fatigue was not as yet understood in July of 1918, however, its effects had been widely observed.⁵⁰ The British thought the lethargy that afflicted experienced pilots, which they called "staleness," might be from oxygen deprivation. Others attributed the shaking hands and numb stares to nerves. Whatever the label, a number of factors contributed to the condition. The physical stresses of flying were wearing. The constant blast of icy air combined with the noxious fumes of burning castor oil and the deafening shriek of the motor ensured that no Nieuport flight was ever truly comfortable. Adding to this strain was the constant correction necessary to counter the torque of the rotary engine, so that even uneventful patrols became physically tiring. More straining still were the physical requirements of aerobatics and combat. Pilots had to wrestle their temperamental controls to respond against the gale-force winds rushing over their control surfaces. Many men returning from battle were too exhausted to climb out of their planes unassisted.

There were also psychological strains. In the air the men faced the near-constant prospect of death, either at the hands of an enemy or because of problems with their aircraft. They knew too well that their motors could fail them at any moment, just as

⁴⁹ Buckley, 105.

⁵⁰ From Lee Kennett, *The First Air War, 1914-1918* (The Free Press, New York, 1991), 146-148.

they knew their fragile airframes might disintegrate under the stress of a radical maneuver. All this was constantly on the pilots' minds as they flew their missions.⁵¹ Landing put a temporary end to the danger, but not to the apprehension. Death remained a constant companion, even at the evening mess, where friends and familiar faces seemed to disappear one by one. No one was immune.

The larger problem in the 94th that July, however, appears to have been one of leadership. Marr clearly abdicated his leadership role, leaving his responsibilities for his frequent trips to Paris. No one filled that void. Rickenbacker was up to the challenge of leading the squadron but was, during most of July, physically incapable of doing so. With all of the remaining pilots of equal rank, there was no true authority in charge.

Although Chambers possessed great willpower, which was largely responsible for propelling him from his humble origins as a field laborer and busboy to fighter pilot, he still regarded himself as something of a failure in the air. He had yet to achieve the combat success he craved. Now his leadership skills were being challenged and he appeared to be failing in this arena as well. He seemed incapable of pulling the squadron together at this critical juncture. It is likely the two aspects of his military

⁵¹ Kennett, 146. Morrow agreed, writing, "A significant factor in the nervous strain associated with aerial warfare arose from the unpredictability of the materiel, the ever-present threat of mechanical failure" (366). Rickenbacker recorded several instances where mechanical or structural concerns added to the pressures of combat. On his balloon-hunting mission of June 25th, Rickenbacker took off with only one magneto operating. He was afraid that when he cut his motor, to evade detection, that it would not restart. A less determined pilot might have scrubbed the mission altogether (*Fighting*, 168-178). Also, the fragility of the Nieuport's wings was constantly on his mind as he flew. He wrote:

[T]he principle fear that hampered me in the midst of a combat was the knowledge that the Nieuport's wings might give way under the stress of a necessary maneuver. Constantly I was limited in essential movements by this fear. Was there no way to strengthen these wings? (*Fighting*, 185)

Chambers recalled that the interrupter gear that allowed the machine guns to fire between the propeller blades would occasionally fail. The unfortunate pilot experiencing this failure could unwittingly blow his own propeller off. Chambers added that while he never experienced this phenomena personally, "a lot of them did" (*Interview*, 9).

service were intertwined. As combat prowess grew to become the measure of a man's worth within the squadrons, Chambers' inability to earn victories may have undermined his attempts to inspire his men.

At Toul, Rickenbacker had observed that Chambers "combined a rare caution with his recklessness."⁵² It is a charitable description but in truth, Chambers was too cautious. He would not bring himself close enough to his enemies to get a kill. Chambers observed that it was not marksmanship that made Rickenbacker so successful, but his ability to get close to his enemy, even when under fire.⁵³ This was not a skill taught at Cazaux, but seemed to be something of a personality trait. Some men accepted the risks better than others.

Rickenbacker accepted the inherent hazards of combat early on. Campbell too had learned to brave the perils, though perhaps he went too far. On his final flight he was a victim of overconfidence, flying too close to the German observer. In comparing Campbell's approach to his own attack on the misidentified Salmson, it is obvious that Chambers was overly cautious. Cook made that clear: "If he ever meets a Boche in the air he will have to do better or he will never get one."⁵⁴

Chambers seemed to understand what was needed, but remained unable to achieve the success he craved. In the May 9th letter to his parents, he wrote, "I am going to nail one soon if I have any luck."⁵⁵ But luck had little to do with either the problem or its solution. Later in the war, having lost his fear, he would get very close to his enemies,

⁵² Rickenbacker, *Fighting*, 66-67.

⁵³ Chambers observed, "[Rickenbacker] couldn't put as many holes in a target that was being towed as I could, but he could put more holes in a target that was shooting at him than I could" (*Reminiscences*, 30).

⁵⁴ *Ibid.*

⁵⁵ Chambers' letter to his parents, dated May 9, 1918.

thus achieving the aerial victories he craved. That success, however, was still in his future.

At Saints, when left in charge, Chambers attempted to motivate the men by telling them they would all survive the war.⁵⁶ It was a promise he could not keep. The disappearing faces at the evening mess and the constant influx of new, replacement pilots revealed the truth. Despite his recollection that his technique improved morale, his attempts to belittle the danger probably only served to depress the men further. The key to overcoming both his Squadron's lethargy and his own spoiling caution was to address the underlying fear. The risks were real and the price of mistakes in the air could end with their deaths. They had to accept this then put it aside to focus on the task at hand.

Later, this is exactly what Chambers would do. In his final weeks at the front, he abandoned the caution that kept him safe but scoreless, embracing a more reckless, far more dangerous persona that would see him amass a respectable list of victories. That change – his acceptance of his vulnerability and the inevitability of fate – began during the dark days Chateau Thierry.

It is likely that Chambers was fundamentally shaken by Tittman's condition at the hospital or and the growing sense of his own vulnerability as a result of his recurring abdominal pains. His transformation may have also been facilitated by the slaughter of the German soldiers trying to cross the bridge over the Marne, and by the loss of so many young pilots all around him. In the face of so much pain and suffering, and so many deaths, he began to lose his fear and become more aggressive. At about this same

⁵⁶ Chambers, *Reminiscences*, 46.

time, he began to have a recurring dream that would trouble him for the remainder of the war.

In his dream, he would see a face in the distance. The face was expressionless and Chambers did not know to whom it belonged. The face would come closer and closer until he and the specter were nose to nose. Then Chambers would wake up in a cold sweat, unable to go back to sleep. As the war progressed he often wondered about the dream. Was it the face of a man he had killed or the face of the man who was to kill him?⁵⁷

His changing attitude was not only reflected in his combat style, but also in his friendships. Before Chateau Thierry, Chambers talked about surviving the war. Later, before each flight with Rickenbacker, the two would execute a brief, macabre ritual. As they shook hands before climbing into their planes, one would say, "Well, I'll be slapping you in the face with a spade, you old so and so," or "I'll be burying you."⁵⁸

His transformation was underway, but in mid July at the Saints airdrome, with the whole world spinning into chaos around him, Chambers and the other pilots of the 94th maintained a low profile. Virtually leaderless, the squadron sent up patrols as ordered by the Group, but – except for the strafing missions of July 15th – failed to display the aggressiveness that characterized their performance at Toul.

⁵⁷ The dream is described in Funderburk, 171 and also in Alan Clark's *Aces High, The War in the Air Over the Western Front, 1914-1918* (Barnes and Noble Books, New York, 1999), 103. Chambers did not mention the dream in either his *Reminiscences* or his *Interview*, nor had any of the members of the family or his coworkers ever recalled him mentioning it. That he had the dream, however, appears certain. Funderburk submitted his text to Chambers for his comments. Though he commented on several items, most notably an error Funderburk had made in his count of victories, he did not comment on the dream, but left the account unchanged.

⁵⁸ Chambers, *Reminiscences*, 38. This practice continued for the rest of their lives. When Rickenbacker crashed in an air accident after the war, Chambers sent a telegram to him that read, "Well, it looks like you'll still be slapping me in the face with a spade." Mrs. Rickenbacker was very hurt by what she saw as a callous disregard for life; however, it was an attitude the two had adopted by necessity, in order to become effective aerial combatants during the war.

Morale did not improve in the 94th until July 31st when Rickenbacker returned from Paris.⁵⁹ The doctors had told him he might not be able to fly again, because of the condition of his ears, but he experienced only minor discomfort when he took his Spad up for a trial flight that morning. His presence alone seemed to inspire the squadron. Late that afternoon a thirteen-plane patrol from the 94th tackled a flight of Fokkers near Olchy-le-Chateau.⁶⁰ In the melee that ensued, Bob Cates managed to get behind one of the Fokkers and to send it spiraling out of control, but Alan Winslow was lost.⁶¹ A month later the squadron received a letter from him, forwarded through Red Cross channels, explaining his status. Winslow had been seriously wounded in the fight. A bullet had shattered his right forearm. He had landed behind German lines and had been made a prisoner. The German doctors amputated his arm, but otherwise he was well and claimed to be happy to be out of the fight.⁶²

On August 1st Rickenbacker, Chambers, Meissner, and several other founding members of the 94th received notification that they were going to be promoted to Captain. Chambers was overjoyed by the news. He recalled later that the news put a temporary end to his abdominal pains.⁶³ About the same time, the pace of combat began to abate as well.

The Germans were being beaten back on the ground. Consequently the pressure was easing from German forces in the air. The huge German airdrome at Coincy, where JG 1 and 2 had been stationed, was soon in Allied hands. Tired and running short on

⁵⁹ Rickenbacker, *Fighting*, 201.

⁶⁰ 94th RO, July 31, 1918, K211 and "Official Victories of the 94th Aero Squadron."

⁶¹ Chambers, *History*, 16, and Rickenbacker, *Fighting*, 203.

⁶² Rickenbacker, *Fighting*, 204.

⁶³ Chambers to Mason. According to the 94th *History* (20), however, it was over two months before the men were actually permitted to wear their new ranks.

manpower and equipment, the First Pursuit Group eased its pace, allowing time for its squadrons to finish training replacement pilots, and for pilots to get more accustomed to their new Spads.

In mid August Rickenbacker was again in agony and on August 17th he was unable to get out of bed. He was again sent to Paris, and this time he was diagnosed as having infections in the mastoid processes of both ears. He was admitted to the hospital and underwent surgery to relieve the tremendous internal pressure the infections had produced. Again the 94th was deprived of his guidance.

Other leadership changes were afoot for the Group. On August 20th, David McK. Peterson replaced Davenport Johnson, the popular commander of the 95th. Johnson left to take over a new Pursuit organization to the south. The next day Atkinson received word that the First Pursuit Group was soon to be relieved of its supporting role for the French 6th Army and transferred to the American First Army, where it would be subsumed into the newly created First Pursuit Wing which would, in turn, report to Billy Mitchell.⁶⁴ Soon-to-be-Lieutenant-Colonel Atkinson was reassigned to take over the newly created Wing.⁶⁵ He was replaced as group commander by Major Harold Hartney, the impressive Commander of the 27th Aero Squadron, who had led his unit to become one of the finest allied fighting squadrons on the front.⁶⁶ This change affected Chambers' squadron most directly. Atkinson had tolerated Marr's absences; the men of the 94th wondered if the aggressive Hartney would do the same.

⁶⁴ Hartney, 212.

⁶⁵ Ibid., 122, Chambers, *History*, 17, and *94th History*, K6.

⁶⁶ Hartney was replaced by Captain Alfred A. Grant, the 27th Squadron's senior flight commander (Hartney, 205).

On the 21st, Hartney was summoned to meet Colonel Mitchell, newly appointed Commander of the First Army Air Service.⁶⁷ It was to be a secret planning conference for the next major campaign, the upcoming St. Mihiel offensive.

Following the March offensives, the Germans occupied three large protrusions into the allied lines.⁶⁸ The first of these, called the St. Mihiel salient, was created during the German assault on Verdun in 1914. It was roughly twenty-five miles across and about fourteen miles deep. The second of these was a result of the thrust toward the Marne at Chateau-Thierry, and the last was a bulge near Amiens. The latter two were created in the March offensives but eliminated in the August counterattacks. Only the old salient at St. Mihiel remained, and the allied leaders were now ready to eliminate it as well. To safeguard his Army's independence, and to show the allies what they could do, Pershing wanted this to be an entirely American effort. Ferdinand Foch, the French Marshall commanding the allied armies, approved Pershing's request. The AEF Commander began massing his forces for the first all-American campaign of the war. It promised to be quite a show. Mitchell had called this meeting to work out the details for air support.

After dinner, Mitchell pointedly asked Hartney to step over to the map and find the tiny field near Rembercourt. He explained that the First Pursuit Group would have to be ready at a moment's notice to slip into the thirty-acre field at night, completely undetected. Anticipating complaints, Mitchell told Hartney not to gripe, as these were the last thirty acres in France. Hartney answered confidently that his boys could set their

⁶⁷ Ibid., 213-214. In Hartney's discussion he claimed this meeting was held on the 21st of August and the group began moving to Rembercourt the next night, the 22nd. He also recalled that the Group was detached from the French 6th Army on the 21st. "The Complete History of the First Pursuit Group, 1918-1941" (AFHRA File GP-1-HI-FTR), 70, the 94th RO for September 1, 1918, and the Chambers, *History*, 17, reveal the Group actually detached from the French on August 30th and began the move to Rembercourt on September 1st.

⁶⁸ Paragraph discussion from Hudson, 119-120.

Spads down on a dime. Later, in private, Hartney observed, "I had little fear the enemy would find our new location [as] I could hardly find it myself."⁶⁹ He hurried back to his Group to ready them for the move.

On the night of August 30th, the First Pursuit Group was moved again, to Rembercourt in the St. Mihiel-Verdun Sector.⁷⁰ In order to preserve secrecy, details of the upcoming offensive were withheld from the pilots. They would soon learn that they were back in the thick of things, again facing the finest pilots of the German air force.

Phase Four: Glory Days

Chambers led the 94th's first flight of five airplanes to Rembercourt on September 1st.⁷¹ After ensuring their planes were properly bedded down at the new field, he and his comrades returned to Saints to ferry additional planes. On September 3rd, Marr led the squadron as the remaining planes were flown to the new base.⁷² In order to preserve the secrecy of their move, Cates, Taylor, and Coolidge broke from the squadron formation to attack a German balloon that had been raised in sight of Rembercourt, while Green circled high above the field to watch for enemy aircraft in the vicinity.

The airdrome at Rembercourt was tiny, very rough, and like so many of the fields Chambers had seen since arriving in France, was prone to becoming a muddy quagmire when it rained.⁷³ Unlike other bases, however, the field at this base traversed the crest of a hill, so that pilots were forced to exercise great skill during takeoffs and landings. In order to exploit the effects of the prevailing winds, pilots attempting to takeoff had to descend down the shallow side of the hill, which was covered with small knolls and

⁶⁹ Hartney, 214.

⁷⁰ Chambers, *History*, 17 and 94th *History*, K6.

⁷¹ 94th *RO*, Sep 1, 1918.

⁷² Details of the Sep 3 move are reconstructed from 94th *RO*, Sep 3, 1918.

⁷³ Description of Rembercourt from Hartney, 214, Buckley 120, and Rickenbacker, *Fighting*, 229.

depressions, pulling up in time to avoid crashing into the next rise. The other side of the hill was smoother, but much steeper. Pilots had to land as they flew up the incline at speeds averaging ninety miles per hour.

If the field was bad, however, the accommodations were abominable. The Group established its Headquarters in a dilapidated old shed on the edge of the broken sod expanse. The pilots and staff officers made do with tents, nestled among the trees. Those officers and enlisted men who had not been able to secure a tent, moved into crudely constructed shacks interspersed in the trees abutting the airdrome. As much as possible, the group attempted to hide itself so as not to warn the enemy of the impending attack.⁷⁴ Surprise was crucial to the Americans' strategy.⁷⁵

Adding to Chambers' discomfort, and to the discomfort of many who had been with him at Issoudon, the Squadron acquired a new pilot on September 1st. Major Carl Spaatz had arrived at the front on a temporary-duty assignment, to get some combat experience before returning to America.⁷⁶ Chambers recalled his reaction to having Spaatz in his squadron:

My feelings toward Major Spaatz were not overly friendly, to say the least, when toward the latter part of the war he was attached on temporary duty to the 94th for

⁷⁴ On September 3rd the Group issued "strict instructions ... regarding fires and use of camouflage due to airdrome being under continuous observation by line of enemy balloons" (*Group History*, 74) and Hartney, 214.

⁷⁵ Mitchell makes it clear in his *Memoirs* that secrecy was the goal, however, it appears it was not achieved. Although Mitchell made Hartney move his group at night, constructed fake airdromes to confuse the Germans, and limited the Americans' aerial activity in the new sector prior to the attack, it is obvious that the American buildup had been compromised. Rickenbacker recalled, "Every taxi-driver or waiter in Paris could have told one just where the Americans were concentrating for their great attack on the St. Mihiel salient" (*Fighting*, 230).

⁷⁶ *Group History*, 73 and Hartney, 325. Unhappy with the quality of pilots arriving from America, Mitchell had asked Spaatz to go directly from Issoudon to one of the two pursuit training schools opening up in the United States, one at Rockwell Field, New York and the other at Orlando, Florida. Mitchell promised Spaatz a wing at the front after he had fixed the training problems at home. Realizing the war might be over by then, Spaatz asked Mitchell for at least some time on the lines before being sent home. Mitchell agreed to give him two weeks. (Ruth Spaatz interview, by James C. Hasdorff, from the Oral History Collection, AFHRA, File Number K239.0512-1266.) Spaatz was with the 94th from Sep 1st through the 9th.

experience on the front. It fell to my lot to take him out for his first flight over the lines and I deliberately flew over an active anti-aircraft battery to "give him the treatment" as we said in those days. Despite the fact that the anti-aircraft was quite intense, Major Spaatz kept his Spad right along side in perfect shape. By the time we landed, I had developed considerable respect for him. He was with us only a few days and then I believe he went to the 2nd Pursuit Group.⁷⁷

Spaatz was reassigned on September 9th.⁷⁸

To enhance the security of the upcoming attack, aerial operations were significantly curtailed during the first ten days of September. Echoing orders from First Army Headquarters, Hartney decreed that patrols were to be kept small in size, usually one or two planes each, and were not to cross over the front lines.⁷⁹ These flights were specifically designed to counter enemy aerial reconnaissance, again to enhance security for the upcoming attack.



Fig. 20. First Pursuit Group's Patrol Sector for the St. Mihiel Offensive.⁸⁰

⁷⁷ Chambers to Samuel Eppley, Nov 5, 1964, from USAU vault.

⁷⁸ There is no record within the squadron or group histories that he engaged in any combats while assigned with the 94th, however, he undoubtedly got a feel for life at the front. After leaving the 94th, Spaatz flew with Major Charles Biddle's 13th Aero Squadron, where he downed two enemy planes on September 26th (Hudson, 183, and Franks, 222). On December 11th, Spaatz was awarded the Distinguished Service Cross for these two victories over St. Mihiel (*Group History*, 117).

⁷⁹ Hartney, 214 and Buckley 121-122.

⁸⁰ Rickenbacker, *Fighting*, 237

Though Rickenbacker, still in Paris, claimed that he and everyone in Paris knew where the Americans were and why they were concentrating, the pilots at Rembercourt were still in the dark.⁸¹ Chambers and his comrades had no idea why they had been withdrawn from the Chateau Thierry sector, or what was coming next. Except for the balloons in the distance, there was very little sign of the enemy. It was an opportunity for the pilots and their ground crews to bring the Spads into peak condition for whatever they would face.

For each of the next few days Chambers flew patrols in the new sector.⁸² In addition to countering any enemy reconnaissance attempts, the patrols provided pilots an opportunity to learn their new surroundings. In the age of by-sight navigation, a general familiarity with a sector and its landmarks was more crucial to a pilot's directional skills than a compass and altimeter. Further, knowing landmarks made aerial observations of ground activities more valuable in terms of intelligence. Although not dedicated air observers, reports made by pursuit pilots were forwarded to headquarters for their potential intelligence value. On September 5th, for instance, Chambers reported seeing a great deal of activity in the forests behind the allied line. Streams of smoke, a number of cooking fires, and a "a flash [that] continued to burn brightly for ten or more minutes," all seemed to indicate that at least some of the ground troops had not received word that their concentration was supposed to be a secret.⁸³ Perhaps this report contributed to a stricter enforcement of the infantry's efforts to avoid detection.

⁸¹ Ibid., 230 and Buckley, 120.

⁸² 94th RO, Sep 4-9, 1918, K228-231

⁸³ Chambers' Reconnaissance Report, Sep 5, 1918.

On September 11th, Rickenbacker returned from his convalescent leave in Paris.⁸⁴ In private conversations with his friends he shared the rumors he had heard in Paris. The big push was on. That night, at evening mess, the rumors were made official. The Group Commander read the formal communiqué: "The First American Army attacks on the whole front at 5 a.m., September 12, 1918."⁸⁵ In support of the attack, Hartney explained, the group would launch low-altitude offensive barrage patrols. Staying below two thousand feet, these patrols would fan out to engage enemy aircraft and balloons, with a special emphasis on balloons.⁸⁶ Pilots were directed to attack the German *Drachen* regardless of whether they were deployed, on the ground, or even being transported to a new location. They were to be considered key targets in the attack.

At five o'clock, the pilots were awakened by the thunder of hundreds of American artillery batteries. The attack was on. Despite heavy rains, Chambers led his scheduled five-plane patrol from the muddy field at 0735 that morning.⁸⁷ Visibility was very poor, but the small band could see smoke and flashes from exploding artillery rounds beyond the front lines confirming that the attack was underway. Encountering no enemy aircraft and finding no opportunities for ground attack, given the poor atmospheric conditions, he and his patrol returned to Rembercourt at 0910.

An hour later, shortly after ten o'clock in the morning, Frank Luke, of the 27th Aero Squadron, destroyed a balloon near Marrieulles, but did not return from the mission until the following day.⁸⁸ Meanwhile, Rickenbacker was aching to get into action.⁸⁹ Just

⁸⁴ Rickenbacker, *Fighting*, 232.

⁸⁵ Hartney, 215 and Buckley, 124.

⁸⁶ Chambers, *History*, 17.

⁸⁷ 94th RO, Sep 12, 1918, K232.

⁸⁸ *Group History*, 75. At the time, this was Luke's first confirmed kill. An earlier kill, on August 16th, had not yet been confirmed. Because Luke had left his squadron formation, a forbidden practice in the dangerous Chateau-Thierry sector, many of his fellow pilots doubted his first claim (it was, however,

after noon, despite the continued rain and poor visibility, he and Chambers set out on a voluntary patrol over the lines to see what they could find.⁹⁰ They climbed to six hundred feet, just below the cloud cover, and headed toward St. Mihiel. A short distance from the Rembercourt field, Chambers was stunned when a huge object passed very near his plane at an incredible speed.⁹¹ The turbulence created by the object threw the Spad into an involuntary barrel roll. He had to fight hard to recover control of his plane to prevent crashing into the ground a few hundred feet below. Shaken, he rejoined Rickenbacker, and the two continued north. Chambers had narrowly avoided being shot down by one of the huge artillery shells the Americans were lobbing deep into the German rear. A series of naval guns had been mounted on rail cars and positioned behind the American lines.⁹² The shells from these guns, typically fourteen or sixteen inches in diameter and weighing close to fourteen-hundred pounds, would have made short work of the small Spad.⁹³ Now in addition to the threat from enemy aircraft and anti-aircraft, he would have to wonder about the mammoth, long-range artillery firing from far behind his own lines.

confirmed later). Luke resented his fellow pilots' doubts. After shooting down the *Drachen* on Sep 12th, Luke landed at a nearby American balloon company's field to have them sign a form he created specifically to have his kills confirmed. As he tried to take off, however, he realized his plane was too badly damaged to fly. It had been nearly destroyed by ground fire he had received during the balloon attack. It was the first of five planes that Luke would have shot from under him. A renegade, Luke spurned authority to carry on a personal vendetta against the Germans, which ended seventeen days later, after he crash-landed behind enemy lines (Robertson, 96).

⁸⁹ Rickenbacker, *Fighting*, 232.

⁹⁰ Details of this patrol from five sources: 94th RO, Sep 12, 1918, K232; *Group History*, 75; Chambers' and Rickenbacker's Reconnaissance Report, Sep 12, 1918; Chambers, *Interview*, 19; and Rickenbacker, *Fighting*, 232-234.

⁹¹ Chambers, *Interview*, 19.

⁹² The incident is described in Chambers, *Interview*, 19, however, the presence of the large naval guns, called "Mothers" by the pilots at the front, are also mentioned in Hartney, 277, 282-283.

⁹³ John Batchelor and Ian Hogg, *Artillery* (Charles Scribner's Sons, New York, 1972), 40, 47.

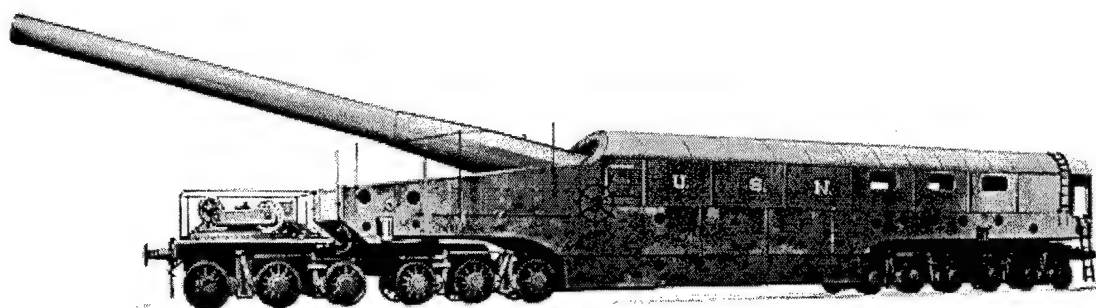


Fig. 21. US 14-Inch Railway Gun.⁹⁴

Proceeding north, the pair saw multiple fires burning far behind the German lines. The enemy was burning munitions and fodder so that they would not fall into enemy hands. The main roads leading out of the salient were packed with retreating German troops. West of Vignoulle the two spotted an artillery train, roughly a quarter-mile long, consisting of eight batteries of German cannon. A team of six horses was pulling each cannon. They circled at five hundred feet to make sure that they had seen correctly, and then began strafing the train. The German troops took flight, diving into neighboring ditches and tree stands, but the horses fell where they stood. In three passes, the entire train was at a standstill – there were no horses left standing. The Germans fled on foot, abandoning their artillery and munitions in place.

Upon landing, the two pilots ran to the Operations Office to tell what they had seen. Rickenbacker later claimed that theirs was the first report of an all-out German withdrawal.⁹⁵ The two airmen were directed to debrief Hartney who contacted First Army Headquarters and relayed the report. It was exactly what the headquarters officers wanted to hear. The Germans' evacuation routes would soon become crowded killing grounds as the pilots' report was converted to artillery coordinates. By nightfall, the highways were made impassable by the wreckage of the retreating German Army.

⁹⁴ Ibid., 47.

⁹⁵ Rickenbacker, *Fighting*, 234.

Later, at the evening mess, the American pilots learned that the doughboys were in Thiaucourt and had taken some seven thousand prisoners in the attack.⁹⁶

The next morning, just before six o'clock on September 16th, the squadron launched two five-plane patrols simultaneously.⁹⁷ John Jeffers led one group to an altitude of sixteen thousand feet while Chambers led the second group, patrolling at ten thousand feet. The men of the 94th hoped they could lure the Germans into attacking Chambers band, and then spring the trap, thus catching the enemy between the two echelons of American fighters. Undoubtedly formation flying better suited Chambers' desires, as he had avoided solo, voluntary patrols since moving to Rembercourt. The mission was unsuccessful, however, as no enemy aircraft were spotted.

The St. Mihiel offensive had all but concluded after the first few days of fighting, the Germans having largely evacuated the salient in the face of overwhelming numbers. As the ground activity abated, aerial operations had also been on the decline. The lull in battle gave the group time to repair and replace damaged airframes, and time to acquaint newly assigned pilots with formation procedures and new surroundings. It was also an auspicious time for Hartney to make improvements in his command staff.

On the evening of September 24th, Marr returned from one of his frequent jaunts into Paris to announce that he had received orders to return to the United States.⁹⁸ Hartney immediately seized this opportunity. He called Rickenbacker aside and said he was going to put him in charge.

The following morning Hartney called Chambers, Thorne Taylor, and Alden B. Sherry into his office to tell them that he was going to pick Rickenbacker, junior to both

⁹⁶ *Group History*, 75.

⁹⁷ 94th RO, Sep 16, 1918, K235.

⁹⁸ Rickenbacker, *Fighting*, 259.

Chambers and Taylor, to replace Marr. He explained that Rickenbacker was older, more mature, and offered a superb role model for younger pilots to emulate. Further, because of his extensive background in mechanics, he understood engines and planes better than any of the other pilots. Perhaps Hartney was expecting some argument. In his memoirs, he recalled,

I'll take my hat off to Reed Chambers and the other flight commanders in the 94th. They were superb sports about it. In a conference I told them my reasons for wanting to put Rick in charge. And without exception and without a murmur of disappointment or disapproval, they O.K.'d the decision.⁹⁹

At some level Chambers may well have been disappointed in Hartney's selection. It might have hurt his pride. If so, his disappointment was not reflected in his memoirs or in his behavior at the time. On the contrary, he seemed elated with the choice. Chambers' experience with command while leading the squadron through the dark days at Chateau Thierry probably convinced him that he would perform better in a supporting role than as the man in charge.

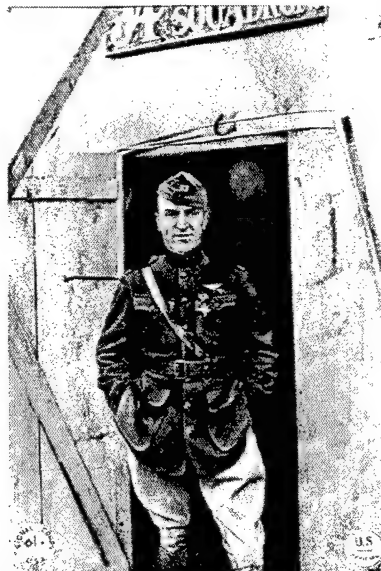


Fig. 22. Rickenbacker at Squadron Headquarters, Rembercourt.¹⁰⁰

⁹⁹ Hartney, 226.

¹⁰⁰ Official Photograph, Signal Corps, from *U.S. Official Pictures of the World War*, 279. Note that the door is wood, but the walls are canvas. Rickenbacker is wearing captain's bars in this photograph, but his

Rickenbacker was not at this meeting, probably by design. He had left early on a voluntary solo patrol. In the space of ten minutes, he had shot down a Fokker and a Halberstadt, his eighth and ninth victories.¹⁰¹ He returned to the field triumphant, but also eager to begin the work of commanding his squadron.

His first act as commander was to call his pilots together and explain his vision for the 94th. It would reclaim the front-runner status it had lost to the 27th (a direct result of the tremendous score achieved by the 27th's most famous pilot, "the balloon-buster" Frank Luke) and never lose it again. He also explained he would be a flying, fighting leader and promised he would never desert them in combat or ask them to fly a mission he would not fly himself.¹⁰² Lastly, he told the men he expected them to be in peak physical condition. Appealing to their sense of honor, Rickenbacker claimed to have infused his pilots with a renewed sense of purpose at that meeting.

After talking to his pilots, Rickenbacker went out and called his mechanics together for a second meeting. He explained what he and the pilots had decided – that they were going to erase the disgrace of having fallen behind the 27th – and told the mechanics that it would be impossible to regain the lead without the ground crews' help. According to his memoirs, he abolished any deference to rank, making it clear that he felt the entire squadron, officers and men, should function as a team of equals to achieve their goals.¹⁰³

Chambers was heavily influenced by his friend's team-based approach to leadership. He saw how it fostered both personal loyalty and commitment to the unit's mission.

promotion did arrive through official channels until some time in October. The 94th RO records him as a lieutenant on October 26th, but as a captain on the 27th, so that is probably the date it became official. Chambers' promotion came through about the same time, though the exact date is unknown.

¹⁰¹ Official Victories of the 94th Aero Squadron

¹⁰² Rickenbacker, *Rickenbacker*, 125.

¹⁰³ Rickenbacker, *Rickenbacker*, 125: "[With] no time to waste on military folderol; I want no saluting, no unnecessary deference to rank."

Chambers would continue to employ Rick's techniques through the rest of his military service, with excellent results, even when declining discipline in the Air Service prompted senior leaders to request a more authoritative approach. After the war, in his many commercial endeavors, Chambers found the team approach to employee relations worked as well for him as it had for Rickenbacker during the war.

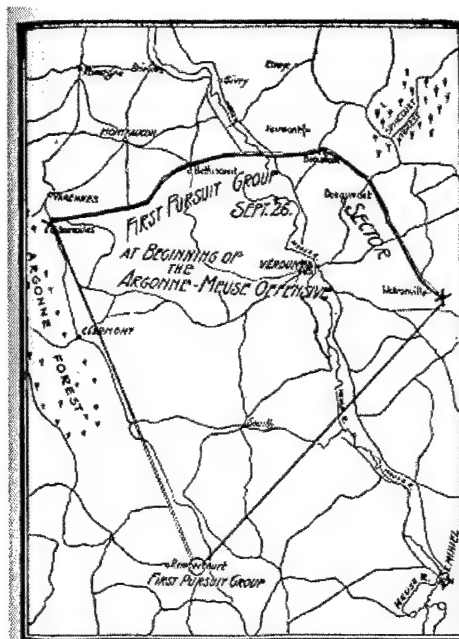


Fig. 23. The First Pursuit Group's Patrol Sector for the Meuse-Argonne Offensive¹⁰⁴

Late in the afternoon on September 25th, the group received the word that the Meuse-Argonne attack would commence the following morning. The First Pursuit Group's primary focus in the attack should be against low-flying enemy aircraft, both planes and balloons, from the Meuse River to the Argonne forest.¹⁰⁵ The group was also to serve as the focal point for coordinating reconnaissance and protection missions for all the American squadrons. In addition to scheduling early morning balloon-strafting missions,

¹⁰⁴ Rickenbacker, *Fighting*, 265.

¹⁰⁵ Chambers, *History*, 17 and *Group History*, 83. The group was also directed to detach two flights for balloon operations. One flight from the 27th Aero Squadron under First Lieutenant Jerry C. Vasconcelles, dispatched to a forward field near Verdun to defend the allied balloon line, while a second flight, from the 147th, under the direction of First Lieutenant A. H. Jones, moved to Brebanten-Argonne, to act as a dedicated offensive force against German balloons.

Hartney ordered his squadrons to conduct offensive barrage patrols, flying below two thousand feet, to intercept both enemy reconnaissance aircraft and attack-planes attempting bombing or strafing runs on American forces. Their orders in hand, the pilots and ground crews began preparing their planes for the next day's attack.

At four o'clock on the morning of September 26th, 1918, Rickenbacker sent for his five best pilots, Chambers, Weir Cook, Taylor, Hamilton Coolidge, and William Palmer.¹⁰⁶ A new pilot, Charles Crocker, also joined them.¹⁰⁷ Over breakfast, the pilots discussed their strategy. It was generally accepted that it was best to strike balloons at either dawn or dusk. The dull, gray skies made it more difficult for the supporting anti-aircraft batteries to spot the fast-moving airplanes, and there was less chance of encountering enemy aviation attempting to defend the balloons. It was also accepted that the only sure way to destroy a balloon was to keep it under incendiary fire for as long as possible, by flying straight and level, right toward the gas bag. Diving or climbing attacks were safer, but less reliable. As Rickenbacker recalled,

The experienced balloon strafers, particularly such daring airmen as Coolidge and Luke, do not consider the risks or terrors about them. They proceed in the attack as calmly as though they were sailing through a stormless sky. Regardless of flaming missiles from the ground, they pass through the defensive barrage of fire, and often return again and again, to attack the target, until it finally bursts into flame from their incendiary bullets.¹⁰⁸

The 94th's two *Drachen* lay just along the Meuse River, between Brabant and Dun.

Each of the pilots had carefully marked the exact location of their targets on their maps.

Chambers, Rickenbacker, and Cook were to take a balloon at Nantillois, and the other

¹⁰⁶ Account of planning and Rickenbacker's role in the mission is from Rickenbacker, *Fighting*, 267-272. Chambers' role in the attack is from his combat report, Sep 26, 1918 and the 94th RO, Sep 26, 1918, K240.

¹⁰⁷ Lieutenant Charles T. Crocker is not included in Rickenbacker's recollection; however, his name appears on the 94th RO, Sep 26, 1918, K240. His role was probably that of an observer, to warn the attacking flyers of any approaching enemy aircraft as well as to learn the tactics for attacking balloons.

¹⁰⁸ Rickenbacker, *Fighting*, 267-268. Rickenbacker obviously wrote this at a later date. At this point Coolidge had no confirmed balloon kills though he would have three by war's end (Official Victories of the 94th Aero Squadron).

three pilots were to take another nearby. In order to catch the balloons right at sunrise, the Americans calculated they would have to leave the field no later than 0520.

It was still dark that morning. Ground crews had to turn on searchlights momentarily, so the pilots could navigate the broken terrain of the field. After leaving the field, Chambers had quickly found his way to the Meuse River, because of a heavy shroud of mist that snaked along the battlefield, clinging to the cool water. In his 1960 interview, he recalled seeing the opening of the American artillery barrage.

We were over the lines when the artillery barrage started. Everything was dead calm and quiet down there. There wasn't a sign of anything. And all of the sudden – it's one of the most beautiful sights I have ever seen in my life – all of a sudden lights started flashing on our side of the lines, by the tens of thousands. And every bit of artillery let go on these fellows just simultaneously, at zero hour. We had a reserved seat to see this thing. The whole ground just lit up, all of a sudden.¹⁰⁹

Chambers followed the mist to Nantillois, where he expected to see his target rising in the first light, but he saw nothing. As instructed, he circled, waiting for his target to come into view. At about 0550, Chambers spied the dull gray sheen of a *Drachen*, just rising out of the mist. He dived to its altitude then flew straight toward the gasbag, unleashing a steady stream of gunfire.¹¹⁰ It was so dark that he could not see his target through his small gun sight, so he fired over his sights, lining the twin streams of brilliant fire directly into the center of the balloon. He was amazed that he was encountering so little defensive fire from the ground. Apparently they could not see him above the mist. As he continued in his attack, Chambers saw the observer leap out of the basket, his captive parachute opening just moments before it disappeared into the mist. Chambers pulled into a steep climb to avoid hitting the balloon, and to line up for

¹⁰⁹ Chambers, *Reminiscences*, 36

¹¹⁰ Lt Chambers' Combat Report, Sep 26, 1918. Chambers' combat report differs from his *Reminiscences* of 1960 (36) in a couple of key details. In 1918, he reported making three passes and not observing the outcome. In 1960 he recalled a single pass and the balloon burning.

another attack. Coming in, he was again surprised at the near-absence of ground fire. He began strafing the *Drachen*, aiming his twin streams of fire directly for the center of his target. He could see his ammunition burning a trail right through the balloon, but again it did not explode. He pulled out for a third try. Over his shoulder he could see the balloon descending. The Germans now fully grasped the threat, possibly because they had seen the observer falling in his parachute. Chambers figured he had one more chance. He dived again and lined up on his target. At roughly thirty-five-hundred feet, he made his final pass. Now there was a brilliant display of ground fire lighting up the sky. He shot at the descending *Drachen* until it disappeared in the mist, then, climbing away from the ground fire, Chambers circled to see if it would rise again. After thirty minutes, he concluded it was not going to come up again. Either he had shot it down or the Germans were going to wait for a protection patrol of fighters before they tried again. He went home. He had fired three hundred rounds of ammunition and was still not sure he had achieved any results.

Chambers, Cook, and the others returned to Rembercourt, arriving at the field just before seven o'clock. Chambers noted he had "only ten or fifteen holes" in his Spad, which he recalled was remarkably little damage for a balloon-strafing mission.¹¹¹ When the reports began pouring in, it was obvious that the flyers had been extraordinarily successful. They had destroyed ten German balloons on their morning outing, and Rickenbacker had downed a Fokker on his way home. Eleven victories without a man lost was an impressive morning's work. Chambers, however, was not convinced. Although Rickenbacker claimed to have seen his best friend's balloon explode, it would

¹¹¹ Chambers, *Interview*, 19.

not be until October 19th that his victory was officially confirmed.¹¹² By then Chambers would be well on his way to becoming an ace. Yet for the moment, he still found himself bedeviled by his overcautiousness.

A few days later, while leading his squadron on a morning barrage patrol, Chambers spied a German *Luft Verkehrs Gesellschaft* (L.V.G.) plane at about five thousand feet.¹¹³ Leaving his formation, he climbed to attack but was unable to reach the enemy's altitude. He began firing from a great distance, alerting the German to his presence. It fled toward its own lines. Chambers had fired fifty rounds to no effect. Returning to his comrades, he noted a second L.V.G directly over the American lines, obviously in an attempt to signal artillery. Again the eager American attacked. The enemy plane dived for its own lines, flying just above the treetops to protect its vulnerable underbelly and to allow the rear gunner to keep the attacking Spad in his sights. Chambers pursued the plane for a distance of some five miles, firing two hundred rounds in a series of short bursts, but again to no effect. With his prey far from the lines and his own ammunition supply dwindling, Chambers pulled away. He reported later that he fired "from a fairly long range," probably out of respect for the German gunner who he recalled "fired a great many shots at me." The fact that he stayed far removed from his prey seems to indicate that Chambers had not yet overcome his fear.¹¹⁴ He was still unable to bring himself to fly close enough to ensure a victory.

¹¹² "Extracts from General Orders," Headquarters Air Service, First Army, AEF, from 94th History, page K20. Chambers' victory was confirmed on G. O. Number 17, dated Oct 19, 1918.

¹¹³ 94th RO, Sep 28, 1918, K242 and Chambers' Combat Report, Sep 28, 1918. L.V.G. stood for *Luft Verkehrs Gesellschaft*. This was the name of the plane's manufacturer. It translates to Air Traffic Society. L.V.G.s were typically biplace reconnaissance planes, although the company manufactured a wide range of airframes, from single-seat fighters to a twin-engined, triplane bomber (*Jane's*, 172-177). The fact the plane was flying alone and was seen launching signal flares makes it most likely it was one of the reconnaissance types.

¹¹⁴ Chambers Combat Report, Sep 28, 1918.

On September 29th, the American First Army halted, to allow its overextended transportation network to catch up with lead elements. Hartney's group was ordered to provide air cover for the Americans, while the other two pursuit groups were told to stand down in preparation for the next offensive, which was to be launched within the week.¹¹⁵

At three o'clock that afternoon of September 29th, Chambers led the lower echelon of a thirteen-plane patrol north to cover the American infantry.¹¹⁶ He was patrolling at about two thousand feet. After over an hour of flying, he noted six Fokkers approaching at about five thousand feet, between himself and the Spads in the higher echelon. He was surprised the Spads above had missed the intruders, but decided to engage anyway. He signaled Sam Kaye, and the two began climbing toward their prey. The two Americans were still quite a distance from the Germans – about sixteen-hundred feet – when they opened fire. Just as the Americans in the higher echelon, the Huns had failed to notice the threat from below. They threw their Fokkers into violent aerobatics, in a manner that led Chambers to later conclude, “they evidently thought they were being attacked from above.”¹¹⁷ He and Kaye picked one and watched it zigzag through their streams of gunfire until it suddenly bucked into a *vrille*, diving out of control. The other five, probably still not sure exactly what they faced, dived for their own lines. Chambers and Kaye returned to their patrol, flying for another hour before returning home.

Upon landing, the two filed their combat reports. As he had done three times before, Chambers scrawled across his report, “Confirmation Requested,” starting the series of

¹¹⁵ Ibid., 88

¹¹⁶ From 94th RO, Sep 29, 1918, K243 and Chambers Combat Report, Sept 29, 1918.

¹¹⁷ Chambers Combat Report, Sep 29, 1918.

phone calls that so far had only ended in his disappointment. It did not take long. With the American Army at a halt and no other allied pursuit planes in the air, many ground observers had seen the low-level combat. The two quickly received confirmation. For both, it marked their first official victories.¹¹⁸ Chambers was elated, but his victory had not been without cost.

The months of combat had been hard on him. He later estimated that he had lost thirty pounds between the beginning of the St. Mihiel offensive and the end of the Meuse-Argonne campaign. He claimed it was “just nerves,” and recalled most of the men had experienced similar weight loss.¹¹⁹ But it was more than “just nerves.” He was obviously still combating his fear.

Like many of the pilots, Chambers smoked heavily at the time, though he did not yet drink. “We were all jumpy,” he explained, “but our morale was excellent.”¹²⁰ His morale may have been superb, but his physical health was deteriorating. Because of his quarters and the conditions, as well as his recurring nightmare, he was not sleeping very well. He was also continually aware of the extreme pain he had endured with his first appendicitis attack in July. The pain had subsided in August, but flared up from time to time by late September. It would soon grow much worse.

Overnight, the weather had deteriorated. By the morning of October 2nd, the air was chill and moist; visibility was poor.¹²¹ Chambers was not scheduled to fly until late in the day. He was to join an eight-plane barrage patrol being led by Coolidge and Taylor, toward Epinonville. The patrol left the field shortly before five o’clock, quickly

¹¹⁸ Chambers’ balloon, shot down on September 26th was not confirmed until October 19th.

¹¹⁹ Chambers, *Reminiscences*, 47.

¹²⁰ *Ibid*.

¹²¹ Description of this mission is from: 94th RO, Oct 2, 1918, K246; Chambers Combat Report, Oct 2, 1918; *Group History*, 90; Chambers, *Reminiscences*, 39; and Rickenbacker, *Fighting*, 292-296.

climbing to its patrol altitude of two thousand feet. A half hour after arriving at his patrol destination, he observed two Fokkers escorting a biplace Hannover across the lines.¹²² Chambers and several other members of the flight dived toward the enemy. The Fokkers ran, leaving the Hannover to fend for itself. The pilot and gunner were too distracted by the sight of Chambers' advancing patrol to notice that a single Spad had dropped into place directly behind them. Eddie Rickenbacker had decided to tag along with the patrol to keep an eye on the action. From a thousand feet above the patrol, he too had observed the three Germans cross the lines. He dived for a position on the enemy's rear, arriving in place moments after the Fokkers turned back for safety. He was now lined up perfectly to destroy the oblivious German crew.

At fifty yards, Rickenbacker opened fire, immediately killing the observer, who slumped over the side of his cockpit. Alerted to this new danger, the Hannover's pilot turned to flee for home, but Rickenbacker flew directly over the German plane and banked to head off his escaping prey. After a few shots, however, both his new Marlin machine guns jammed. He swung around again. Rickenbacker hoped to bluff the German toward the approaching Spads. It worked. The German turned toward Chambers. At that moment, a formation of five Fokkers attacked Rickenbacker's plane. Without guns, he could not hope to defend himself. Leading his attackers toward his own patrol, he dived through the Spads. Instead of five-to-one odds, the Fokkers now found themselves outnumbered nine-to-five. They pulled away.

Advancing toward the Hannover, Chambers had seen its escort fighters flee and had observed Rickenbacker's attack. He could not see, however, that the observer had been

¹²² In his combat report, Chambers claimed the plane was a Halberstad. In the Group History, it was recorded as an L.V.G. When the plane was recovered, however, it was confirmed to be a Hannover.

killed with his friend's first burst. It appeared to Chambers that Rickenbacker was recklessly exposing himself to the observer's guns, just as Lufbery and Campbell had done on their last flights. Spurred by his friend's predicament, Chambers opened fire on the approaching Hannover just as Rickenbacker dived clear. Despite the fact that he was still at long range when he began firing, his bursts seemed to achieve results almost immediately. The German machine fell limply into a slow, steady dive.

The formerly timid pilot had changed. Perhaps it was the immediacy of Rickenbacker's predicament, or maybe it was a steadily building "mad-at-the-Boche" attitude. He described the rising anger in his 1960 interview: "You got madder and madder as you went along, and you got so that shooting them down was no different than shooting down a duck."¹²³ Whatever the reason, Chambers seemed a changed man in the air that day.

With the German biplane slipping away, Chambers pulled up to see what had happened to Rickenbacker. He saw the five German machines retreating and assumed his friend was all right. As he watched the Fokkers climb into a large cloud, Chambers sped around to the opposite side, where he was sure they would exit, and waited to intercept them alone.

With the help of the other Spads on patrol, Rickenbacker had slipped his pursuers and was now climbing back toward where Chambers was waiting to spring his trap. He had cleared the crushed cartridges from his guns and was anxious to reengage the Fokkers. He had time to join Chambers in completing a couple of tight circles under the cloud when just over their heads, the lead Fokker burst through. Like geese, each of the

¹²³ Chambers, *Reminiscences*, 34.

next four followed their leader in a tight “V” formation. The Germans were oblivious to the threat below.

The two American pilots banked steeply, climbing for the last two Fokkers. Nearly standing on their tails, the Spads clawed for altitude. At almost the same instant, the two Americans opened fire, each sending two hundred rounds of gunfire into their targets. Their victims tumbled from their formation. Just as his targeted Fokker veered wildly out of control, Chambers’ motor sputtered from lack of fuel. He nosed over into a steep dive to try to revive his failing engine. Fearing the other three Fokkers might soon be on his tail and unsure of his motor, as soon as the engine caught Chambers sped for the safety of home. Rickenbacker was close behind. By the time they returned to Rembercourt, their three victories had already been confirmed. Chambers seemed to have overcome his fear of approaching enemy aircraft, but there was still another hurdle ahead. The ubiquitous German *Drachen* were the best-defended targets on the front. Attacking them at dusk or dawn was risky; in broad daylight it was almost suicidal. One of these formidable monsters was to be his next great challenge.

Just before three o’clock on October 10th, Chambers was scheduled to lead an eleven-plane protection patrol north, over Montfaucon, to protect Weir Cook and Ham Coolidge’s attack on a balloon.¹²⁴ There were also flights from the 27th and 147th joining

¹²⁴ Details of this patrol are from 94th RO, Oct 10, 1918, K253, Chambers Combat Report, Oct 10, 1918, Chambers *Reminiscences*, 37, *Group History*, 97, and Rickenbacker, *Fighting*, 312-320. The RO for this day lists the two pilots of the balloon-strafting team as Weir and Cook, with Chambers leading the protection patrol; however, from Chambers’ and Rickenbacker’s recollections, it is obvious Cook was replaced at the last minute by Chambers. There is no record of who led the protection patrol after Chambers was pulled, though it is most likely that Palmer took charge, as he was the most experienced of the remaining pilots. The Siemens-Schuckert fighter featured a radial motor and a four-bladed propeller, which was actually two traditional propellers bolted one on top of the other. The fuselages were built from molded plywood. Their rigidity enhanced the aerodynamics of the plane by reducing drag. Only fifty of these planes had become operational by war’s end, but their excellent climbing speed, superb

this mission. Chambers' patrol would cover the balloonatics while the other squadrons' flights would protect his right and left flanks. As he had done so often before, Rickenbacker decided to tag along. He would fly high above the patrols to observe and to serve as a kind of top cover for the American pilots. This operation was an all-out push to eliminate a particularly troublesome balloon, a target that was undoubtedly going to be very well defended.

Intelligence indicated that the Germans had concentrated the heaviest air force yet assembled to oppose the allied advance in the region. The First Pursuit Group faced both the Richthofen and Loezer Circuses, as well as No. 3 *Jagstaffel*, which was reportedly flying the new Siemens-Schuckert D-IV, an extremely fast climber, and a very agile machine.¹²⁵

Just before takeoff, Rickenbacker learned Weir Cook would be unable to make this flight. He asked Chambers to serve as his replacement. This was bad news. Attacking balloons under the cover of dusk or dawn was bad enough, but in broad daylight with an alerted protecting force, it was nearly suicide. In his 1960 interview, Chambers recalled how he reacted to the news that he had been selected for this dangerous mission. The fear is palpable.

I was the alternate balloonatic on one other show, back about six or eight kilometers behind the lines, a week or so later. Ham Coolidge was the number one guy to shoot at it, and I was to be the number two... I can remember having cotton in my mouth. I just couldn't get any saliva running. I was sitting there really suffering.¹²⁶

Crossing the lines near Meuse-Doulcon, three of the pilots in the protection patrol had to pull out of formation because of motor trouble. Just over the lines, with the

maneuverability, and high service ceilings (over 26,000 feet) made them dangerous adversaries (*Jane's*, 189).

¹²⁵ Rickenbacker, *Fighting*, 311.

¹²⁶ Chambers, *Reminiscences*, 37.

balloons in sight, the sprawling group formation was attacked by two waves of Fokkers. One formation was pouncing on the 147th's patrol, guarding the left flank, while another was lining up directly above the center patrol; the patrol from the 94th. Further below, Chambers and Ham Coolidge watched as a wall of flaming incendiary rounds and high explosives erupted between them and their prey. Simultaneously, the ground crews supporting the balloon began to reel in their captive air bag, to bring it down to safety.

Disregarding the menace above, Coolidge dived into the fiery defenses to get what would probably be his only shot at the descending balloon. Chambers followed close behind. Coolidge unleashed a torrent of incendiary fire, keeping it trained directly in the center of the gas bag. Chambers later recalled.

I was right behind him. These flaming onions and anti-aircraft were popping all around us, and Ham made his pass, and I was right behind him. By the time I got there, the balloon was on fire, so I could pull out and did pull out.¹²⁷

Satisfied they had achieved their objective, Coolidge and Chambers climbed to gain altitude and rejoin their squadron. Chambers chanced to climb directly under one of the five Fokkers attacking his squadron. Having survived the horror of the daylight balloon attack, his fear seemed to have dissipated. At a distance of five hundred yards, he

¹²⁷ Chambers, *Reminiscences*, 37. "Flaming onion" was the pilots' name for the large-caliber, slow velocity, anti-aircraft round they encountered near balloons and other high-value enemy targets. These rounds obviously made a profound impression on Chambers. He described them in an interview:

[T]he shell they fired was an incendiary and it was about as big as your thumb. We called them flaming onions. They had a slow trajectory, but there'd be a strip of about ten, like that, but a hundred or more of them shooting at you, and they were coming from all directions. And you were just lucky if you didn't fly through one. (*Reminiscences*, 37)

Both Coolidge and Chambers reported seeing the balloon in flames. Coolidge even requested confirmation in his combat report (94th RO, Oct 10, 1918, K253). From his vantage point above, however, Rickenbacker clearly saw that the balloon was not destroyed, but was pulled down to safety. Another pilot, William Brotherton of the 147th Aero Squadron, also observed the balloon intact. His plane was shot down in flames by anti-aircraft fire as he tried to attack the *Drachen* in its nest (*Group History*, 97 and Rickenbacker, *Fighting*, 319-320). Coolidge and Chambers were probably confused by the intense anti-aircraft fire and smoke from falling aircraft destroyed in the dogfight that raged above them.

opened fire and saw the Fokker spin into a *vrille*. It was 1548 hours. Coolidge also joined the fight. Flying to the aid of Palmer, who was trying to shake his determined pursuer, they dispatched another of the attacking Germans.

Pulling away from his crippled victim, Chambers saw two planes falling out of control some distance away. They both appeared to be Huns. He watched the planes tumble to the ground, crashing near Bois de Sartelle. Returning to his patrol, about two minutes later, he was surprised when a flaming Fokker suddenly shot past him on its way to the ground. He watched it crash and continue to burn. He looked up, from where the flaming plane had come, and saw three formations of Fokkers very high above him. One was lining up to dive on the Americans' right, where men of the 27th were patrolling.

Chambers did not know it at the time, but the flaming Fokker was Rickenbacker's latest trophy. The 94th's new Commander had dispatched the fighter as it flew to attack the 147th's patrol, far on the American left. As it fell, Chambers was thrilled to see the pilot leap from his plane and save himself by the use of a parachute. All of the pilots had read about German pilots using parachutes, and most had seen balloon observers use them, but this was one of the first recorded uses of an airplane parachute on the Western Front.¹²⁸

Sadly, the two planes Chambers saw falling some distance away were most likely a Fokker and the Spad belonging to Lieutenant Wilbur White of the 147th. The German had been pursuing White in a shallow dive, pouring fire into his fuselage, when White pulled into a steep *reversement* and slammed into his attacker head on. White's courageous maneuver seemed to have broken the spirit of the Germans attacking the

¹²⁸ *Group History*, 97.

group's left. They dived back behind their lines. On the right, however, the 27th was still engaged with a flight of Fokkers that had dived on them.

Rickenbacker and Jimmy Meissner, who had been with his 147th patrol on the left, flew into the fray to assist, as the remaining members of the 147th and the 94th patrols turned toward home. Meissner's wings were set on fire by an attacking Hun, but Rickenbacker managed to get this Fokker off his tail, shooting it down. The rest of the enemy machines pulled away and ran for home. Meissner's wings blazed for several minutes until he was able to sideslip his plane, extinguishing the fire. Then, with very little fabric remaining, he started to limp for home. Having twice flown a Nieuport with tattered wings, he may have been better prepared for this catastrophe than most pilots. Still, Rickenbacker stayed close by his side as the entire group formation was headed for home. The group had lost two of its pilots, both from the 147th and, it would be discovered later, had failed to get their balloon, but they had destroyed seven enemy planes.¹²⁹ Despite their apparent success with the Fokkers, the experience drove home important lessons on balloon strafing. As Rickenbacker recalled later,

I was never in favor of attacking observation balloons in full daylight and this days experience – the aroused suspicions of the observers, the pulling down of the balloon as strong aeroplane assistance at the same time arrived, and the fate of Lieutenant Brotherton, who tried unsuccessfully to pass through the defensive barrage – is a fair illustration, I believe, of the difficulties attending such daylight strafings. Just at dawn or just at dusk is the ideal time for surprising the *Drachen*.¹³⁰

¹²⁹ The 94th got four while Wilbur White got three. He got the first in a very early fracas, his second with two other pilots in his squadron, and his last in his head-on collision. Brotherton was a pilot from the 147th: see footnote 114.

¹³⁰ Rickenbacker, *Fighting*, 320. Rickenbacker's point is well taken, however, operational priorities prevented its implementation. Many daytime balloon-strafing missions were conducted over the last four weeks of the war.

Upon returning home, Chambers requested confirmation of the Fokker he had seen descend in a *vrille*. Because he had fired at such a long range, and because he had not seen it crash, he was not very confident it would be confirmed.

The weather deteriorated the night of October 10th, and for the next few days there was very little flying. On October 12th, Chambers led a flight of six planes out on an early-morning patrol, but they saw nothing of the enemy. By that afternoon, the weather had closed in and the dueling air forces were grounded once again. On the 13th, the weather was bad all along the front, canceling almost all flights. For the 94th, the one exception was a balloon mission, flown by Ham Coolidge. Just before three-thirty in the afternoon, Coolidge took off to attack a bothersome *Drachen* just over the front lines at Andevanne. Relying on the weather to guarantee his surprise and eliminate any protecting Fokkers, Coolidge stole up on the balloon and shot it into flames on his first pass.

On October 19th, the same day the squadron received its first word that Alan Winslow had been captured, Chambers received confirmation on the balloon he shot down on September 26th.¹³¹ As he had also received oral confirmation of his Fokker, shot down on October 10th, this latest confirmation raised his total to five. The former Guardsman, who had struggled so hard for his chance to fly, was now an ace.

On October 22nd, Chambers and Rickenbacker took off on a voluntary patrol over the front, to see what they could find. Shortly after four o'clock, chambers observed a Fokker diving on a Salmson observation plane. He coolly fell in behind the enemy machine and opened fire, expending about seventy-five rounds before the enemy's

¹³¹ *Group History*, 100 and Official Victories of the 94th Aero Squadron. Chambers' victory was confirmed by General Order #17, dated Oct 19, 1918.

machine began to spiral. Chambers stayed with the observation plane. Far below, the German pulled out of his spiral into a dive, streaking back for home. Seeing the threat gone, Chambers waved at the crew of the Salmson and headed off. At four-thirty, he spied five Fokkers strafing ground troops. As they streaked by, he dived behind the last plane, opening fire at very close range. After one hundred and fifty rounds, the plane fell, burning and obviously out of control, and crashed in American territory.

Alerted to the danger, the other four Fokkers pulled away from their ground targets and charged toward Chambers. He raced for the safety of his own lines. When the Germans realized they could not catch the Spad, they turned and headed for home. Seeing his chance, Chambers also turned, and sprayed the four retreating Fokkers with machine-gun fire. He continued to fire until his guns were empty. He saw one start to tumble, but could not remain to see it hit the ground. This was not the timid pilot who had fled from danger just weeks earlier.

A moment after emptying his guns, Chambers was overwhelmed by a sharp pain in his lower right abdomen. His appendix was acting up again. As he had been instructed earlier, he found he could ease the pain by raising his right leg so that his knee was practically brushing his ear. With his foot propped up against the front of his cockpit, he turned and headed for home.

Chambers was in agony as he flew home. Fortunately the Spad's designers had included a small loop of wire over each of the rudder pedals, so that a pilot could push and pull with his feet. The innovation was supposed to aid in difficult maneuvers, as well as making it possible for wounded pilots to continue flying. It was working well for Chambers now. Circling Rembercourt, he thought he might be able to use his leg

temporarily, to effect a landing, but on trying to move his foot from the cockpit wall, he found the pain excruciating. He would have to land with only one foot. The uneven terrain at Rembercourt no doubt contributed to Chambers' pain as he landed and taxied to a halt. He sat in his cockpit, immobile, as his ground crew rushed out to check on him. They quickly saw he was very ill, and carefully lifted him out of the cockpit, onto the ground.¹³²

Once on the ground, he was surprised to see the Salmson he had met on patrol. With his ground crew's help, Chambers reported into the operations office to file his report. Reemerging after completing his paperwork, he encountered Bill Thaw, formerly head of the Lafayette Escadrille and now Commander of the Third Pursuit Group. "Who is that crazy son-of-a-bitch that got two ... out of five out of that thing?" Chambers recalled Thaw asking.¹³³ "That's the God-damnest piece of fighting I ever saw; you'd better cut that."¹³⁴ Chambers was modest, explaining it had been, "like shooting two ducks on a pond actually – there was nothing heroic."¹³⁵ Thaw was unconvinced. He insisted on buying Chambers a drink. As Thaw was something of a legend, Chambers was eager to spend some time with him. Forgetting both his pain and his pledge not to drink, he accepted Thaw's offer. The two headed over to a squadron bar to celebrate

¹³² At this point, Chambers' various retellings of this story diverge somewhat. In his September 1, 1966 letter to Paul Mason, of *The Cincinnati Enquirer*, Chambers recalls being carted off to the hospital immediately after he landed. In an interview conducted the same year, he recalled landing and meeting Bill Thaw of the 103rd Aero Squadron (formerly the *Lafayette Escadrille*). In *Fighting*, Rickenbacker also wrote that Chambers left for the hospital on Oct 22. The official record, however, sheds light on the various conflicting recollections. Chambers flew a mission the following afternoon, October 23rd, and filed a reconnaissance report after that flight. He no doubt had a relapse of appendicitis then and was admitted to the hospital shortly afterwards.

¹³³ Chambers, *Interview*, 20.

¹³⁴ *Ibid.*

¹³⁵ *Ibid.*

Chambers latest two victories. Toast followed toast until the two new friends were sitting spread-legged on the floor. Chambers recalled later,

I toasted him because he was a great, great friend and he toasted me because of what he had seen. They carried me home. By the way, that was the first time in my life I'd ever been fried. And I was very ashamed the next morning.¹³⁶

Undoubtedly the drinking helped to dull Chambers' pain, but it probably took a long time for him to recover from his first hangover. Fortunately, he was not slated to fly again until the following afternoon.

At three o'clock on the afternoon of October 23rd, he led a three-plane patrol north to St. George and St. Juvin. Arriving over the front lines, they observed a flight of American bombers exiting German airspace pursued by several formations of Fokkers. When Chambers and his comrades drew closer, the Fokkers turned and fled. There was no opportunity to follow the Germans, because once again, Chambers was overcome with the agonizing pain in his lower right side. Again he propped his foot up on the cockpit wall to ease his suffering, and managed to make it home safely.

Upon returning, he again had to be helped from his plane. The pain was agonizing. Upon his return from a patrol, Rickenbacker learned what had happened. He and a corpsman took Chambers to the train station and accompanied him to #3 Hospital in Paris. Once there, doctors examined the sick pilot immediately, concluding he required immediate surgery. They administered anesthesia and rushed Chambers into surgery. Although the warring nations would continue to fight for another thirteen days, for Reed Chambers, the war was over.

¹³⁶ Ibid.

Chapter 4

Warrior at Peace

The next thing Chambers recalled was awakening in an officers' ward with forty-nine other men, groggy from the ether he had received. Rickenbacker and the corpsman had already returned to Rembercourt. Two days after reawakening, Chambers' surgeon visited him to show him his appendix, preserved in a bottle of alcohol. The doctor explained to his patient that he had been extremely lucky. A few hours more and the appendix would have burst, resulting in his death by peritonitis. The doctor told Chambers he would be out of action for at least a month, and needed to get plenty of rest in order to go back to the front.

Although he undoubtedly wanted to get back to his friends and the fighting, Chambers was equally aware that the war was winding down and an allied victory was inevitable. Returning meant an opportunity to raise his score, but conversely, no one wanted to be the last man to fall in this war.

Rickenbacker sent a note a day or two later, congratulating Chambers on his sixth and seventh confirmed victories and on his promotion, which had finally come through. The two friends were finally captains. Chambers was still in the hospital when the Armistice went into effect on November 11th. He and a fellow patient celebrated the end of the Great War together with a glass of smuggled champagne.

Back at the 94th, the last few weeks of the war had taken their toll. While Rickenbacker added four more victories to his roster, the squadron lost one of their most

respected pilots when Hamilton Coolidge was killed on October 27th.¹ On the afternoon of November 10th, Major Maxell Kirby shot down an enemy Fokker near Maucourt. It was the last aerial victory of the war. The war would end the following day.

Notified that hostilities were to cease that morning, Hartney posted orders for his units:²

FIRST PURSUIT GROUP
Operations Office

November 11, 1918

OPERATIONS ORDER Number 75.

1. AN ARMISTICE WITH GERMANY HAS BEEN SIGNED.
2. ALL HOSTILITIES MUST CEASE UNTIL FURTHER ORDERS, MONDAY, NOVEMBER 11, 1918, AT 11 h 00.
3. CONSEQUENTLY PILOTS ARE FORBIDDEN TO CROSS THE LINES OR TO ENGAGE IN AERIAL COMBAT WITH ENEMY MACHINES WHATSOEVER.

H. E. Hartney
Major, Air Service, U.S.A.,
COMMANDING

Rickenbacker later confessed to violating this order. Shortly after eleven o'clock, he flew a lone patrol over the front, just to experience the silence of the new peace.³ He landed to find that his men – all the men at the base – had begun an impromptu party that would last well into the night. He reported feeling no need to stop the celebration; the war was over.

The Armistice was designed both to stop hostilities immediately and prevent any resumption of combat. Specific information on its contents was not released to senior

¹ Coolidge had just finished driving off a swarm of Fokkers attacking an American reconnaissance patrol when he was struck by anti-aircraft fire. His plane exploded in flames and fell out of control very near the front lines. Rickenbacker went up to the site, and with the help of troops in the area managed to locate and bury Coolidge's broken body, taking a picture of the site for the dead man's family back home (Rickenbacker, *Fighting*, 342-343).

² 94th *Scrapbook*, 13.

³ Rickenbacker, 134-135. He listed this as a "test flight" on the daily RO (94th RO, Nov 11, 1918, K269).

commanders until November 10th, the day before the cease-fire was to occur. It left commanders very little time to execute the transition from a fighting to an occupation force. Chambers would soon find himself caught up in this rapid reorganization.

The clauses of the Armistice most pertinent to the American Air Service's situation were those dealing with the forthcoming occupation and the German surrender of aircraft. These are reprinted below:

CONDITIONS OF THE ARMISTICE

1. Armistice to be effective six (6) hours after signature
2. Immediate evacuation of Belgium, Rance, and Alsace-Lorraine, with a delay of fourteen (14) days. The troops which remain after this period will be interned.
3. 5000 cannons of large caliber, 30,000 machine guns, 3,000 minenwerfers, 2,000 airplanes to be turned over to the Allies.
4. Evacuation of the left bank of the RHINE.
5. KOBLENZ, COLOGNE AND MAINZ occupied with a radius of 30 kilometers. The constitution of a neutral zone on the right bank of the RHINE. Depth of 20 to 30 kilometers. The evacuation in 11 days.
8. Germany to maintain the army of occupation.
13. Return of all prisoners without reciprocity.
18. The armistice will last thirty (30) days.⁴

As a peace treaty had not yet been signed, Pershing exhorted his men not to relax their discipline. There was still a possibility the Germans might renew hostilities.⁵ To avert this possibility, the Allied leaders decided that Germany would be demilitarized from the west bank of the Rhine River to its neighbors' borders. Then, on the east bank, three Allied armies would occupy large tracts of German territory. These would serve as combat-ready sentinels on the banks of the Rhine, ready to put down any German attempt to resume military action before any attackers could advance into Allied territory. America's contribution to this force was to be its Third Army, under Major General Theodore Dickman, which would be renamed "The Army of Occupation." Dickman's

⁴ Reproduced from Mitchell, *Memoirs* 289-290.

⁵ John S. D. Eisenhower, *Yanks, The Epic Story of the American Army in World War I* (The Free Press, New York, 2001), 286.

army would need air support, both to observe German activities on the ground and to counter any air attacks, should they develop. Chambers, recuperating in hospital, had little idea that he and many of his friends would soon find themselves on their way into Germany.



Fig. 24. Allied Occupation Zones⁶

On November 17th, Hartney received word that the 94th was to be detached from the First Pursuit Group and reassigned to the occupation force. It was considered a great honor to go. Pershing had instructed Mitchell to assemble the flying arm of the Third Army from a group of his most experienced squadrons.⁷ America's most famous pursuit squadron, the 94th had been the first to reach the front and would become the last to leave

⁶ Griess, map number 23. Note Longwy, on the France-Luxembourg border. The Noers airfield was just outside of Longwy. This was Reed's first duty location on his way to Coblenz.

⁷ Mitchell, 294. According to Cooke, Pershing wanted only the most experienced units in the occupation force. These were to be built up to full strength before moving to Coblenz. Even at the risk of appearing unfair to those officers who had never had a chance to reach the front, Pershing reasoned that if hostilities resumed, experienced men should form America's first line of defense (Cooke, 204).

it as well. Rickenbacker called his men together and explained that they were moving into Germany.⁸ They began packing their gear.

Still in hospital, Chambers was surprised to learn that he and Rickenbacker had been recommended for promotion to major.⁹ Cheered by this news and having recovered from his surgery, by the third week of November he was feeling well enough to leave the hospital. He was sent to Cannes for convalescent leave.¹⁰ Upon reporting to the hospital there, however, he found orders waiting for him to return to his unit immediately. Chambers did not know it at the time, but the senior staff of the Air Service had its own reasons for rushing him back to his squadron. They wanted him to take command of his old unit. He departed the next day, racing to rejoin the 94th, which was already on the move.

The 94th had left Rambercourt on November 25th, traveling through Chaumont, Souilly, Verdun, Eras, Azaunes Fillen, Longuyon, and arriving at a field near Longwy, on the border of Luxembourg.¹¹ The Noers airdrome had housed German units for the previous four years, most recently serving as home to a bombardment *jasta*.¹² Here the

⁸ Many of the pilots who had transferred out of the 94th during the war either asked or were ordered to rejoin the squadron. They, along with returning POWs and recovered pilots, swelled the 94th's rolls to full strength (*Group History*, 114). Back from the 147th came Jimmy Meissner, with Lieutenant Francis M. Simonds taking his place as the 147th's commander (*Group History*, 114). Captain Adrian Butcher, the Operations Officer who helped Chambers when he had landed at the French airdrome on April 14th, returned from the Group staff. Soon Doug Campbell would return from America to rejoin his old friends. Douglas Campbell rejoined the squadron on Nov 24, 1918 (*94th History*, K26). First Lieutenant Eugene Scroggie, captured October 3rd, was released and caught up with his unit as it moved toward its new home on the Rhine. Along with the 94th, Mitchell was sending the 1st, 12th, and 91st Aero Observation Squadrons (later he would add the 88th as well), the 9th Night Observation Squadron, and the 166th Day Bombardment Squadron. The 1st, 2nd, and 3rd Balloon Companies, under Lieutenant Colonel John Paegelow, were also included in the 3rd Army's aviation component (Cooke, 208-209).

⁹ The *Group History* first records Chambers' rank as "major" on November 18th (113-114). By this point he probably had received word his promotion would be approved, however, he continued to wear captain's bars until the promotion was made official in the spring of 1919.

¹⁰ Chambers to Mason, Sep 1, 1966, 3.

¹¹ Chambers, *History*, 21.

¹² *Group History*, 115.

men found comfortable accommodations and an entirely new mission to perform. Temporarily attached to the Fifth Pursuit Group, they were to patrol the skies over Luxembourg, looking for signs of civil disorder and any violations of the Armistice. For recreation, the men enjoyed target practice with rifles and pistols. They were not permitted to associate with local inhabitants, so they were largely confined to their base.

Chambers rejoined his squadron at Noers, just in time for the Thanksgiving celebration. He was overjoyed to see Butcher, Campbell, Rickenbacker, Meissner, and the rest: so many of his old friends back together. The squadron was also honored by a visit by Billy Mitchell.¹³ He had been touring German airdromes and dropped by to share in the feast with his pilots. Over dinner, they all talked of their combat exploits. To the delight of all, Major Maxwell Kirby stood and described how he shot down the last Fokker of the war. After dinner, each of the pilots made a short speech. This was followed by singing and numerous jokes at the expense of the Americans' bested adversaries. They drank, toasted, and sang until late in the evening.

During the evening, Mitchell revealed that he would soon be returning home. He announced that Rickenbacker, Meissner, and Campbell would also be leaving soon.¹⁴ Major Kirby was to take over the Fifth Pursuit Group while Major Cedric Fauntleroy, who had joined the squadron after Chambers' departure in October, was being reassigned to command the 139th Aero Squadron. These moves left Chambers as the ranking officer. As the former leader of the first flight and, therefore, the former deputy squadron commander, Chambers would now take command the 94th. Everyone toasted the new commander.

¹³ Mitchell, 301.

¹⁴ Assignments listed in *Group History*, 118.

The rest of November and first three weeks of December were uneventful. There was little flying to be done. Chambers pitched in to help Rickenbacker, Butcher, and many others with the weight of administrative tasks the Army had levied upon the squadron. They were to produce a squadron history, including tables listing the number of flying hours, combats, and victories for each pilot assigned. This information was eventually incorporated into the "Gorrell History," Colonel Edgar S. Gorrell's comprehensive history of American aviation during the Great War. In addition to the paperwork required by headquarters, Rickenbacker decided he would submit a nomination package to the French government for the 94th to receive a unit award of the *Croix de Guerre*.

The statistics justifying the award were impressive. In its seven months of combat, the squadron had participated in 296 combats, shot down 56 enemy planes and 14 German balloons, for a total score of 84 victories.¹⁵ Rickenbacker led the squadron both in terms of victories (26) and combats (50), but Chambers was in second place, with 27 combats. Balancing its victories, the 94th had suffered eighteen casualties: nine killed; four wounded, four captured, and one missing.¹⁶ As for hours flown, Chambers recalled that, "Rick had more official hours over the lines than any other American pilot; I had [the] second number of hours."¹⁷

Yet despite the 94th's success, American aviation was a minor contributor to the allied victory in the Great War. The combined victories of all American units only yielded 776 enemy airplanes and 72 balloons – a total of 848 kills.¹⁸ This compares

¹⁵ 94th History, K31-32. Where pilots shared a victory, each pilot was credited with one, explaining the difference in the final total.

¹⁶ From "Casualties 94th Aero Squadron." Saunders was listed as missing until an investigation in spring 1919 concluded he had died.

¹⁷ Chambers, *Reminiscences*, 52. This author was unable to substantiate Chambers' claim as there were no tallies of hours in any of the materials reviewed.

¹⁸ Hudson, 299.

favorably to the 289 American planes lost to combat during the war, but pales when compared to the results of the other combatants. Britain reported losing some four thousand planes in combat.¹⁹ France claimed to have lost three thousand, while the Germans reported having lost 3,130 planes in aerial fighting.

Looking beyond the sheer numbers, however, one must ask how effectively the combatants' air forces were employed during the war and what impact those forces had on the eventual outcome in order to gauge their success properly. Even after adopting large-formation patrols, a reaction to the Germans' strategy, the Americans seldom achieved a sufficient concentration to sweep their enemies from the skies. Small enemy reconnaissance patrols still were able to gather sufficient reconnaissance information to air their artillery batteries waiting below. Nor were aerial units capable of denying terrain to enemy ground forces. Air forces certainly impeded movement, as exemplified by the strafing attack on the limbered artillery battery, but were not able to prevent independent movement or occupation by ground troops.

In that context then, aerial forces served as merely an interesting adjunct to the ground war. Hudson concedes as much when he writes:

Certainly, air power did not win the first world war; in fact, it played a relatively small role, but its lessons were not lost on the military and political leadership of the second great conflict which started in 1939.²⁰

In Hudson's view, the war "was merely a transitional phase in the development of the air weapon."²¹

¹⁹ John Ellis and Michael Cox. *The World War I Databook; The Essential Facts and Figures for all the Combatants* (Aurum Press Limited, London, 2001), 281. The authors concede that: "The enormous growth of the air forces in the First World War rather outstripped their book-keeping resources and figures for aircraft losses are elusive as well as being extremely unreliable even when they are presented – the figures given should be treated with the utmost caution."

²⁰ Hudson, 304.

²¹ Ibid.

The war had been a transitional phase in Chambers' development as well. He had learned the art of flying, but he also saw first hand how America had lost its head start in terms of aviation. It had been Americans who had first taken to the sky in a powered flying machine, but now, fifteen years later, the country had been forced to turn to its allies for most of its planes and training. For the rest of his life, he would remain committed to restoring American preeminence in the air.

In addition to piloting skills, Chambers had also grown as a leader. Until the last few months of the war, he had always achieved success individually, pushing himself to learn more and do more than his contemporaries to earn acclaim. While at Saints, he had been thrust him into a position of leadership, responsible for the actions of others, and had failed. Watching Rickenbacker pull the dispirited squadron out of its slump, he realized leadership required more than merely setting a good example. Subordinates had to be included in a manner that made them an integral part of the mission, so that the organization's failure or success became their own failure or success. Chambers would continue to apply the leadership lessons he had learned during the war throughout the remainder of his life.

Although the light duty and limited flying opportunities at Noers undoubtedly offered Chambers and his friends a great deal of time for self-reflection, their time there would be short. On December 7th the men of the 94th learned the First Pursuit Group was heading home. Advance elements of the 27th, 95th, and 147th Aero Squadrons immediately began making their way to the American depot at Colombey-les-Belles for their trip back to the United States.

This was also a time when the allied governments recognized the achievements of their gallant warriors. On December 5th, Rickenbacker, Meissner, Campbell, and Winslow were awarded Distinguished Service Crosses. Two weeks later, the men of the 94th learned that the French were awarding the *Croix de Guerre* to a number of pilots who had distinguished themselves at Chateau-Thierry. This was not the unit nomination package that Rickenbacker forwarded a few weeks earlier, but a series of individual awards that had been submitted by the French VI Armee during the summer. Chambers, Marr, Coolidge, Taylor, Green, Loomis, Cates, Hill, and Tittman were all recognized; Coolidge posthumously. On the 23rd, Chambers received recognition from his own government in the form of the Distinguished Service Cross and Oak Leaf Cluster for the victory he shared with Sam Kaye on September 29th and for his double victory of October 2nd.²²

On Christmas Eve, the order not to fraternize with civilians was temporarily suspended as the Duchess of Luxembourg threw a party for the officers of the 94th.²³ It was a gala affair, with the officers decked out in their finest attire, sporting all of their ribbons and service medals. During the evening, the reverie was interrupted by news that the First Pursuit Group had been disbanded. All remaining elements of the group had been released to the First Air Depot's control.²⁴

The following day, the remaining Americans celebrated Christmas in the mess hall at Noers. It was the final gathering of the old gang, and a sentimental affair. Again there was much singing and storytelling, along with speeches from some of the men about to leave for the United States. The next day, December 26th, Rickenbacker, Meissner, and

²² *Group History*, 118.

²³ Chambers, *Reminiscences*, 55.

²⁴ *Group History*, 118.

Campbell headed home as Chambers and his Hat-in-the-Ring Squadron departed for Coblenz.

He and his men arrived at Coblenz on New Year's Eve, settling into an airdrome just outside of town. Formerly called the Coblenz Airdrome, the new home of the American airmen was renamed "Fort Alexander."²⁵ The quarters were comfortable, but the weather at Coblenz was cold and damp – poor conditions for flying. Yet that did not appear to be the main mission for Chambers and his squadron. He soon discovered that there would be very few flying opportunities at Coblenz. The majority of his time would be devoted to administrative matters. In addition to completing the squadron history, his unit would serve as a collection point for German fighters. Under the terms of the Armistice, Germany was to surrender to the Allies all of its Fokker D-VIIs, and most of its advanced fighter designs. As the only pursuit squadron in the American sector, all of the German fighters destined for the United States Army would be turned in to the 94th.

The job of collecting fighters was thrilling and dangerous. It was thrilling because it afforded the American pilots an opportunity to fly the vaunted German fighters, but it was also dangerous because the planes were unfamiliar and because there was always the chance that the Americans could become victims of German revenge. "We were afraid they'd sabotage one by using a hacksaw on the steel fuselage or something," Chambers explained later.²⁶ In order to minimize their risk, the Air Service found a German pilot to test each plane before the Americans flew it.

Once the Americans were sure the planes were safe to fly, they would engage in mock combats, pitting the German planes against their own Spads, to test the limits of the

²⁵ Chambers, *Reminiscences*, 49.

²⁶ *Ibid.*

enemy machines under realistic conditions. Chambers later estimated he had over 150 hours in Fokkers alone, and had put them through every aerial maneuver possible. He was not impressed with the vaunted fighters. For Chambers, the Fokkers failed to live up to their reputation. He felt his Spad was superior in every aspect except service ceiling; he conceded that the Fokker could fly higher. In his 1960 interview he conceded, "If I had known how much better it [the Spad] was, I'd have been a lot braver."²⁷



*Fig. 25. Chambers with Captain Everett R. Cook in front of a surrendered Fokker D VII.*²⁸

Chambers had become extremely bold by this point in his career. He was routinely stunting his planes, flying them under bridges, around towers and wires, and putting on impromptu exhibitions for gatherings of soldiers and civilians. He was certainly a spectacle in the skies around Coblenz, however, by mid-winter, the planes of the 94th had become something of a spectacle even when just standing still.

²⁷ Ibid. Mitchell's recollection is different. In his *Memoirs*, he praises the Fokkers, but mostly for their solid construction and maintainability. He was particularly impressed by the steel tubing in the fuselage, which "anybody could fix, even an ordinary plumber" (308).

²⁸ Winnie Chambers' photo album. Chambers stands on the right, Coblenz, Germany, winter 1919.

Shortly after Christmas Mitchell decided to allow the American pursuit pilots to decorate their planes with individual paint schemes, much as the Germans had done during the war.²⁹ Chambers opted for a patriotic theme: The nose of the plane was red; the empennage was blue, with white stars; and the body and wings were covered in red and white stripes.³⁰ John Jeffers opted for a polka-dot design while Sam Kaye selected a black-and-white checkerboard design. Weir Cook, the balloonatic, opted to paint his solid black with yellow lightning bolts on the wings. All in all, it was a colorful group of aircraft that patrolled from Coblenz.

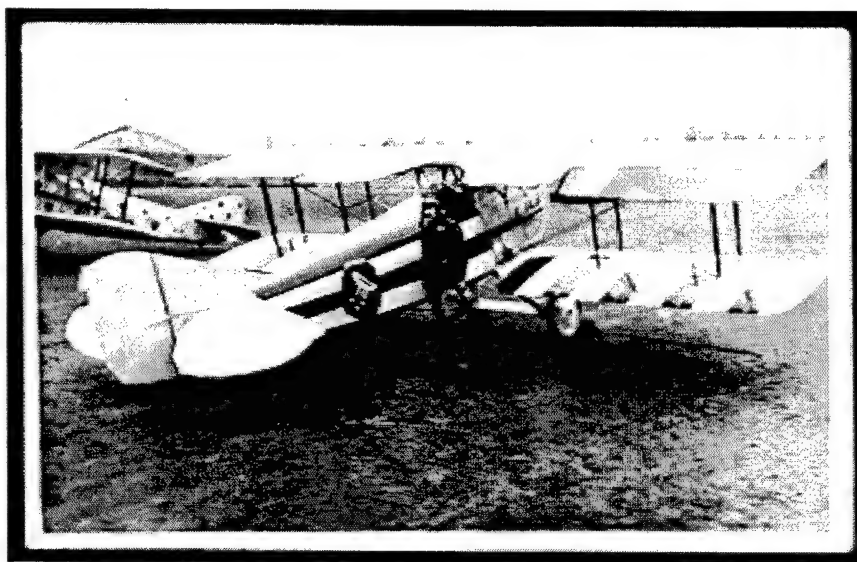


Fig. 26. Chambers and his Stars-and-Stripes Spad.³¹

They also added small Maltese crosses inside Uncle Sam's hatband, corresponding to the number of victories the pilot had achieved. Since Chambers and Cook, the squadron's leading aces, had only seven victories each, there was ample room for the crosses.

²⁹ Chambers to Bergen Hardesty, Nov 4, 1955; Chambers to Harry Block, April 2, 1965; and Chambers to Ron Oro, August 5, 1971; all from USAU historical files.

³⁰ Empennage: the rear part of the airplane, encompassing the stabilizer, elevator, vertical fin, and rudder.

³¹ From Winnie Chambers' photo album. Note John Jeffers' polka-dotted Spad in the rear.

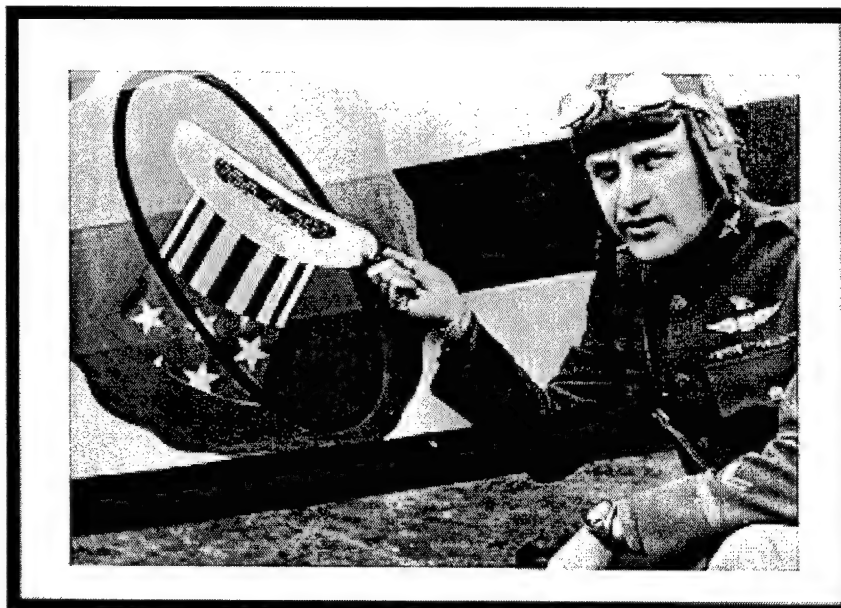


Fig. 27. Chambers in a Close-up of Squadron Logo.³²

Another, less pleasant duty for the new squadron commander, was enforcing standards of behavior. The men of the Air Service were developing a reputation for poor discipline. Through Mitchell, Chambers received word that forty percent of all the officers receiving disciplinary action at the 2nd Army's headquarters at Bar-le-Duc were from the Air Service.³³ Frank Lahm was frantically trying to reinforce standards by implementing a rigorous policing policy. One of the concerns Lahm reported was an absence of hand salutes. Senior officers were appalled to see that pilots and their ground crews did not salute one another, even on duty.

The informality of the flight line was nothing new for airmen. From his first day as commander, Rickenbacker had insisted on a strict policy of equality to foster teamwork and efficiency:

We had no time to waste on military folderol... I wanted no saluting, no unnecessary deference to rank. We're all in this together, pilots and mechanics. We need each other, and we're going to work together as equals, each man doing his job.³⁴

³² Ibid. Note the seven Maltese crosses on the hatband.

³³ Cooke 213-214.

³⁴ Rickenbacker, *Rickenbacker*, 325.

Anxious to emulate his friend's success, Chambers had not considered revising this policy. Now, however, his hand was forced. He struggled to satisfy his superiors, by placing a greater emphasis on customs and courtesies, yet continued to employ the teamwork approach to leadership he had learned from Rickenbacker.

As if his concerns at Coblenz were not enough to keep him busy, Chambers also had to answer requests for information from family members regarding those who had been lost during the war. The first of these letters, from the mother of Lieutenant Edward G. Garnsey, arrived in January 1919. In a letter addressed to the First Pursuit Group Mrs. Garnsey wrote,

I have just received (Nov 22nd) an official report of the death of my son, Lieut. Edward Grant Garnsey, Jr., ... killed in action on Oct. 29th, just five days after his last letter was written that we have so far received, and only twelve days before PEACE was declared. I cannot believe that this report is true until I hear direct from some of his mates who knew that beyond a doubt it is a fact. ... We had such hopes – but now we feel sort of dead inside. He was our only man – my husband died a year ago – just before Grant went to the front. We did need him so much.³⁵

She asked that her son's body be cremated, back in the United States, if possible. If not, she asked that his ashes be returned to her. Mrs. Garnsey continued her appeal in a second letter addressed directly to Rickenbacker.

I am not going to give up hope that Grant will return until I get positive word from those who know. Will you please, at the first possible moment, let me hear from you giving me all the particulars you can? ... I do not know whether my letter is comprehensible (*sic*) or not – my mind is so sort of dead and everything whirls round you. You will please read between the lines and try and understand.³⁶

Garnsey had joined the squadron on September 16th and was killed in combat on October 29th, days after Chambers was evacuated to Paris for surgery. Mrs. Garnsey's letter was a poignant reminder of the pain and suffering this war had inflicted. It fell to

³⁵ From a collection of documents dealing with the personal effects of pilots killed in action, from AFHRA file SQ-94-FI-HI.

³⁶ Ibid.

the new squadron commander to answer the tormented woman's plea. He wrote back explaining that Grant had been killed in a fight with seven enemy Fokkers, "just south of Hill 272, in the region of St. Juvin in the Argonne."³⁷ He told her that Grant's body had been found by the 166th Infantry, and was buried where it lay.³⁸ Second Lieutenant John DeWitt, Grant's friend, had carefully marked the grave, Chambers explained. He concluded his letter by extending his deepest condolences, and then enclosed a map to the gravesite. It was a difficult task, one that did not get easier with repetition.

Undoubtedly Chambers felt a lot of pressure during his stay at Coblenz. It was becoming more obvious to both him and his men that the war was not going to reignite and that Third Army was soon going to stand down. As Cook observed, the knowledge that they would all be going home soon "was not conducive to good discipline and order."³⁹ By selecting the units that had the most experience for the occupation force, Pershing and Mitchell had condemned these men to even longer absences from their homes and families. Many doubted the need to remain in Germany, and wanted to go home. Even given his penchant for barnstorming, Chambers was undoubtedly getting bored with the limited flying opportunities. And after having received hundreds of enemy planes, the thrill of flying these airframes must have faded.⁴⁰ He was undoubtedly in need of some distraction.

³⁷ From undated report, subject "Information regarding Squadron Casualties," in which Chambers describes his responses to several families' queries for information on their lost loved ones. The report was prepared in response to a higher-headquarters query dated Feb 10, 1919.

³⁸ Lieutenant Colonel Noble B. Judah, Assistant Chief of Staff, G-2, 42nd Division correspondence to Assistant Chief of Staff, G-2, 5th Army Corps, dated Oct 20, 1918, subject "Effects of Lieutenant Garnsey," from AFHRA file SQ-FI-94-HI.

³⁹ Cook, 214.

⁴⁰ This author could not find any tallies on the numbers and types of aircraft accepted at Coblenz. In his *Memoirs*, Mitchell wrote that he had accepted "a couple hundred" enemy planes during his tenure there (306).

He found it in the form of a traveling American performer, sponsored by the American Red Cross. In early January, 1919, Myrtle Bloomquist, a contralto singer traveling Europe to entertain troops, arrived in Coblenz.⁴¹ Sometime during her visit she and Chambers met. She was as taken with the dashing young pilot as he was with the tall, stately operatic singer, and the two quickly began making plans to spend the rest of their lives together.⁴² This no doubt inspired Chambers and gave him something more pleasant to consider during his long days at Coblenz.

He was also pleased when his promotion to major came through in early January 1919. Although he and Rickenbacker had been recommended for promotion at the same time, Army policy denied promotions to officers returning to the United States. Rickenbacker's departure to assist with America's final victory-loan drive had cost him his promotion. Chambers later claimed this was a sore point for his friend and served as Rickenbacker's motivation for keeping the title "Captain" in his moniker for the rest of his life, even though he was promoted to major upon his release from the service a few months later.⁴³

Despite his promotion and time with Myrtle, Coblenz was undoubtedly starting to wear on Chambers by late winter. The daily Reports of Operation for this period are monotonously similar.⁴⁴ Each day Chambers or his adjutant hand-wrote the squadron's

⁴¹ The exact date and duration of Myrtle Bloomquist's visit are unknown. Her daughter recalls she served as the Prince of Wales' date at a dance held in Coblenz (Ackerly, 11). Mitchell records the visit and a Red Cross dance, reporting the Prince left on Jan. 6, 1919 (*Memoirs*, 310), so it is likely the singer was in Coblenz by at least Jan. 3rd. How long she stayed, however, remains unknown.

⁴² Chambers' daughter, Polly Ackerly, did not recall details about the courtship. She thinks it probable, however, that her father proposed in Coblenz, as they were married very soon after his return to the United States later that year (Ackerly, 11-12).

⁴³ In his autobiography, Rickenbacker claimed that because he was only promoted as he was leaving the service, he never felt he truly deserved the rank. For this reason, he wrote, he decided to retain the rank of captain in his title (*Rickenbacker*, 142).

⁴⁴ 94th RO, February 1-28 and April 1-14, 1919, from AFHRA file SQ-FI-94-HI.

ammunition supply (53,800 rounds of machine-gun ammunition, and 6,000 rounds for the officers' pistols) and the number of aircraft present and available (almost invariably, two of the thirty planes were out of service on any given day.) The weather was often too bad to fly, and even when it was clear, the cold was numbing. Those few flights that were logged in the daily reports were either short, single-plane test flights or flights of three or four planes sent out to practice formation flying, or to engage in mock dogfights.

If the flying was becoming mundane, however, it appears the awards ceremonies and victory celebrations were becoming downright tedious. In addition to the formations for individual awards, there were a number of group presentations. Each ceremony required the men to bring their uniforms and equipment to inspection standards, distracting them from other pursuits. On March 13th, Chambers and his squadron stood for inspection for General Pershing.⁴⁵ At the conclusion of this inspection, Pershing offered a few remarks, and then presented the 94th with French *Croix de Guerre*. As commander, Chambers received the medal and citation for his unit. According to the citation, the French VIII Army was recognizing the squadron for its performance while stationed in the Toul sector (this was the award for which Rickenbacker had applied in December).

⁴⁵ *Group History*, 123.



Fig. 28. Certificate accompanying award of French Croix de-Guerre to the 94th Aero Squadron.⁴⁶

On April 8th, Chambers received word that he and his squadron were heading home.⁴⁷

He immediately set to work orchestrating his unit's movement to the Air Depot. With

⁴⁶ Ibid., 120. The citation praises the American Squadron Number 94 as the premier combat squadron of the American Army.

⁴⁷ The order read:

HEADQUARTERS THIRD ARMY
AMERICAN EXPEDITIONARY FORCES
GERMANY
8 April, 1919
10:30 hours
OPERATIONS ORDERS
NO. 64.

Pursuant to telegraphic instructions, G.H.Q., the following units are relieved from duty with the Third Army, effective 9 April, 1919, and will proceed by rail from present stations to COLOMBEY-les-BELLES, reporting upon arrival to the Commanding Officer, 1st Air Depot, for demobilization

94th Aero Squadron
116th Aero Squadron
91st Aero Squadron
12th Aero Squadron
1st Balloon Company
Photo Section No. 2
Photo Section No. 4
Photo Section No. 6

thirty planes, over one-hundred-and-eighty men, and tons of equipment to pack and ship, he was immediately swamped with work.

Upon learning they were to leave their Spads behind, for use by the 138th Aero Squadron, Chambers decided he did not want to give up his squadron insignia.⁴⁸ Taking a penknife, he carefully cut around the insignia on both sides of his fuselage, rolled them in oilcloth and packed them with his personal belongings. He then had the mechanics cover the torn area with new canvas. Inspired by their leader, several of his pilots did the same.



*Fig. 29. Chambers' Hat-in-the-Ring Squadron Emblem on display at USAU Headquarters.*⁴⁹

2. Orders for disposition of transportation, equipment and aircraft will issue from the Army Air Service Commander.
3. Each organization Commander will inform the Commanding Officer, 1st Air Depot, by wire, of his probable date and hour of arrival at COLOMBEY-les-BELLES.
4. Organization Commanders will arrange entraining schedules direct with G-4, Third Army, who will provide the necessary rail transportation.
5. The Quartermaster will furnish the necessary subsistence, paying liquid coffee money in advance at the prescribed rate for the necessary number of days.

By Command of Major General DICKMAN

(A copy of this order was filed in the 94-SQ-FI-OPS materials of the AFHRA.)

⁴⁸ Chambers to Corwin H. Meyer, May 24, 1965, USAU archives.

⁴⁹ Photo by author, January 2001. This emblem hangs at USAU's corporate headquarters, in New York City. The Maltese crosses, representing Chambers' seven victories, are visible inside the hatband.

For the remainder of his life, Chambers kept one of his emblems framed over the desk in his office, and the second one at his home.⁵⁰

On April 16th, the 94th Aero Squadron departed Coblenz, arriving at the Air Depot at Colomby-les-Belles the following day.⁵¹ The squadron immediately began turning in its equipment. Finding little to do, Chambers visited with other pilots who were also preparing for the trip home. It was at this point that he first met Major Field Kindley.⁵² Kindley was something of a character.⁵³ He was tall, affable, and had a pronounced Arkansas drawl and piercing blue eyes. He also had “lighting-like reflexes” which had served him well as a fighter pilot with the 148th Aero Squadron.⁵⁴ When America entered the war Kindley joined the Kansas National Guard. He quickly grew to dislike the endless drill that was the order of the day for infantry training. Spying a notice on the unit bulletin board calling for pilot candidates, he decided to join the Army Signal Corps. He learned to fly at the School of Military Avionics, University of Illinois, and was shipped to England for combat training in September 1917. There he mastered the English airframes he would fly for most of the war.⁵⁵ He was commissioned into the American Air Service on April 15th and, while still serving in a British unit, scored his first victory, over Leutnant Willhelm Lehmann, the commander of *Jagdstaffel 5*, on June 26, 1918. Soon afterward, he was transferred into the American 148th, where he earned

⁵⁰ One of his original emblems is still on display at the board room of the USAU headquarters in New York City. The other was donated by his family to the Air Force Museum, Wright-Patterson Air Force Base, Ohio, upon Chambers' death.

⁵¹ *Group History*, 124.

⁵² Chambers to Lela Givens, Jan 8, 1969, USAU archives.

⁵³ From Hudson, 201-205.

⁵⁴ “Lightning-like reflexes,” Hudson, 202.

⁵⁵ The 148th flew Sopwith Camels until they were assigned to Charles Biddle's 4th Pursuit Group on November 1, 1918, in preparation for operations in support of the final American push. They were in the process of switching to Spad XIII's when the war ended (Hudson, 229).

eleven more victories before the end of the war. Now, like the 94th, his squadron had been called home.

As Chambers recalled, he and Kindley “immediately took a liking to each other.”⁵⁶ With little else to do, the two were put to work writing a manual for flight commanders. The project lasted only two weeks, but it was long enough for the two to become “very fine friends.”⁵⁷ The results of their writing efforts, however, were not as fruitful. Chambers recalled that of the documents they submitted, what he called their “ten valiant efforts,” not one was ever published by the Air Service.⁵⁸

On May 2nd, Chambers and the remaining members of his squadron – for many had been reassigned to other duties in Europe by this point – headed to LeMans, on the first leg of their journey home. They arrived there on the 4th and stayed for a week before proceeding to Brest on May 18th. Three days later, Chambers and his men boarded the *USS Frederick* for their voyage home.

Upon docking at the Hoboken, New Jersey harbor on May 31st, Chambers led the now famous Hat-in-the-Ring squadron down the gangplank. From Hoboken, they took a train to New York, arriving at their first stop, Camp Mills on Long Island. After ensuring that his men were adequately accommodated, Chambers and some of the pilots still assigned to the 94th – Harvey Weir Cook, John Jeffers, William Palmer, Sam Kaye, and a few others – decided to go into New York City for some fun, and to meet Rickenbacker and Campbell, who were visiting to help celebrate the homecoming.

⁵⁶ Chambers to Givens, Jan 8, 1969, USAU archives.

⁵⁷ Ibid.

⁵⁸ Ibid.

While out on the town, Rickenbacker asked Chambers to leave the service and come and join him in the new Rickenbacker Motor Company.⁵⁹ He had gone into business with Barney Everitt, William Metzger and Walter Flanders to build a new kind of automobile for the American public.⁶⁰ Rickenbacker envisioned a car that would appeal to the middle class. It would have a low center of gravity, a powerful engine, and a four-wheel braking system.



Fig. 30. Major Reed Chambers arriving in New York on June 2, 1919.⁶¹

The “Rickenbacker” would cost more than Ford’s Model T, but less than the Cadillac and Packard that had between them cornered the high end of the market. Chambers was enthusiastic about the idea and, like many of his contemporaries, decided to leave the Air Service.⁶²

⁵⁹ Chambers, *Reminiscences*, 54.

⁶⁰ Rickenbacker, *Rickenbacker*, 145.

⁶¹ From Winnie Chambers’ photo album. This photograph held a cherished position in Winnie’s album. It was on the first page the reader saw upon opening the cover. Above it Winnie had pinned three service ribbons that her son had given her – the ribbons off his dress uniform representing his Distinguished Service Cross, Legion of Honor, and *Croix de Guerre*.

⁶² Chambers, *Reminiscences*, 56.

When the war ended, the Air Service had 20,000 officers and 175,000 men in uniform.⁶³ Forty-five of its squadrons had seen action on the front, fielding a force of 740 airplanes. At home, America's factories had built some 12,000 planes.⁶⁴ Captain Roy N. Francis, of the Division of Military Aeronautics, spoke out for America's future in aviation.

America cannot afford to junk the airplane fleet which has cost her so many millions of dollars. I do not believe that any other nation will do so. Even if the peace congress should decide on universal disarmament, there are still any number of uses to which airplanes can be put in time of peace.⁶⁵

Francis went on to describe a variety of applications for America's airplanes, including mail service, shore protection, forest-fire detection, and search and rescue activities.

Despite Francis' vision, as well as the predictions made by many others, the future did not look bright for American aviation. The 740 airplanes that had seen combat with the American Air Service accounted for only ten percent of the total Allied air strength during the war; and almost all of them were foreign-built.⁶⁶ Of the 12,000 aircraft America had produced during the war, only 3,500 were combat models, and most of these were DH-4s. The sheer numbers of these aircraft leftover from the war ensured they would remain the dominant airframe used by the downsized American military for years to come.

Things were stagnant in commercial aviation as well, but not because of a surplus of aircraft. On the contrary, there seemed to be virtually no interest in commercial aviation.

⁶³ Hudson, 300.

⁶⁴ The majority of these were Curtiss "Jennies." In 1916, 701 of the basic JN-4 design were built by Curtiss, another 1,260 were produced under license by Canadian Aeroplanes of Toronto. Later, Curtiss built 2,765 of the JN-4D and 929 of the JN-4H models. The company also produced 1,035 units of the final version of the plane, the JN-6H (Enzo Angelucci, *The Illustrated Encyclopedia of Military Aircraft, 1914 to the Present* [Chartwell Books, Edison, New Jersey, 2001], 93.)

⁶⁵ Quoted in Francis A. March, *History of the World War, An Authentic Narrative of the World's Greatest War* (United Publishers of the United States and Canada, Philadelphia, 1919), 617.

⁶⁶ Hudson, 300.

The aircraft manufacturers were not building commercial transports, nor was the public requesting air-carrier service. Consequently, many pilots returned to the United States only to find the skills they had honed during the war were of little use to them now.

Harold Hartney observed that,

The real tragedy of the Air Service... was the inability of many of the greatest of our war flyers to adjust themselves successfully to the commercial aspects of the business they thought they knew best – aviation... Eddie [Rickenbacker] has been one of the outstanding exceptions... He secured backers and placed on the market one of the mechanically finest cars ever seen up to that time – the “Rickenbacker.”⁶⁷

Recognizing that flying opportunities were limited, Chambers decided to get out and go help his friend build and sell cars.

The day after his trip into New York City, Chambers reported to Colonel Archie Miller at Mitchell Field and handed in his resignation.⁶⁸ The following morning, he was called back to the Colonel’s office and instructed to report to General Billy Mitchell in Washington DC. Chambers took the train, arriving late that morning. At the Air Service Headquarters, he was told to sit and wait until the General was available. As he waited, Chambers saw many old friends – people he had met while overseas – passing by. He stopped to talk to many of them, passing the time and catching up on personal news. At noon, Mitchell started out of his office with a colonel in tow. Passing the waiting ace, Mitchell said simply, “Hello Chambers; come on,” and walked on down the hall and out the door.

In front of the headquarters building, Mitchell motioned for Chambers to climb into his car. The three were chauffeured to a dock on the Potomac, where a large yacht sat waiting. Chambers recalled that it was Mrs. Whitlaw Reid’s yacht they boarded, setting sail up the Potomac for a luncheon cruise. After an excellent lunch and pleasant

⁶⁷ Hartney, 295.

⁶⁸ Chambers, *Reminiscences*, 56-58.

conversation, Chambers and the two senior officers climbed back into Mitchell's car and headed back to headquarters. Passing the waiting room, Mitchell turned and said, "All right Chambers; see you in a little while."⁶⁹ Chambers went back to waiting.

Again he noticed old friends passing by, and he filled his afternoon reminiscing. Around five o'clock, Mitchell's door flew open and the General emerged. Strolling quickly across the reception area, Mitchell shouted over his shoulder, "Come on!" Chambers followed Mitchell back to the car, got in, and the two were driven to Mitchell's home.⁷⁰ As the General led Chambers into his quarters, he explained,

I'm running a little experiment out here tonight and I thought you might like to watch it. You know, these people back here passed this Prohibition Law while we were fighting for the country. They can't do that to me.⁷¹

Inside the house, Mitchell turned and opened a door onto a small dark stairway. Motioning to Chambers, the General started down the stairs. On the floor was a barrel of sour mash and next to it was a small, copper still. Chambers watched as Mitchell squatted down to light the flame under his still. Soon the two watched as small droplets of liquid fell from the tip of a condenser tube into a glass. Whenever the glass was half full, Mitchell would pick it up, sniff it, take a quick drink, and hand it to Chambers. The two of them sat in silence, watching the moonshine drip into the glass and occasionally sipping the warm white lightning.

After several rounds, Mrs. Mitchell called down the stairs, informing them that dinner was ready. They went up, ate, then came down to watch the still some more. As they sat, the General reached over and put his hand on Chambers' shoulder:

⁶⁹ Ibid., 56

⁷⁰ This evening at Mitchell's house is also described in Burke Davis, *The Billy Mitchell Affair* (Random House, New York, 1967), 51. The two accounts are almost identical, with only minor variations in the recalled conversation.

⁷¹ Chambers, *Reminiscences* 56-57.

Now look, Chambers, I got your resignation – got your resignation. You can't do it. Too many of the old timers have left, and we need you in the service. We've got to keep a cadre of experienced men in here, to get this thing organized. I want you to reconsider. I want to keep you in, and I'll give you command of the First Pursuit Group, to reorganize. You'll be stationed at Selfridge Field. You can take all the group records, squadron records – everything. You'll take all your squadron records and send all the group records out to Selfridge. You'll take all of your regular army enlisted men, and anyone that wants to stay in the service. You can have them apply for regular army, and just move out. I'll send you pilots – experienced pilots – just as fast as we can get them together. We want to build this thing up.⁷²

The homemade whiskey, the flattery, and General Mitchell's earnest appeal all had an effect. Chambers agreed to remain in the Army. He withdrew his resignation and prepared for his reassignment to Selfridge Field, just outside of Mt. Clemens, in Michigan.

There is no record of his wife's reaction to Chambers' decision to stay in the Army. It appears, however, that she was willing to follow her husband in all his undertakings. Chambers was not a wealthy man. As an Army pilot, he made a comfortable living, but he and his soon-to-be wife would have to forgo luxuries for as long as he stayed in the service. The wedding band and engagement ring he purchased were, therefore, quite simple. The plain, gold engagement ring boasted only a single, small diamond. Myrtle Bloomquist rejoined Chambers in New York and the two were married at the Little Church Around the Corner.

Before departing for Selfridge, the squadron was pared down even further as men were discharged and sent home, or reassigned to other units. The official history of the First Pursuit Group probably sums up the results of these personnel reductions best with an entry dated June 25th: "94th Aero Squadron consisting of one officer and one Sergeant First Class departed Mitchell Field, New York for Selfridge Field, Michigan."⁷³

⁷² Chambers, *Reminiscences*, 57. A virtually identical account appears in Davis, *Mitchell Affair*, 51.

⁷³ *Group History*, 129.

Chambers and his lone NCO were off to rebuild the 94th, and to preserve Mitchell's Air Service.

The major and his sergeant arrived at Selfridge on June 26th and immediately set about the work of reconstructing their squadron.⁷⁴ After sorting and filing the wartime records, they made ready to receive the aircraft, pilots, and mechanics Mitchell had promised. In addition to the 94th, two other squadrons - the 27th and the 147th - were preparing to begin operations at Selfridge. The field was also home to the recently reactivated First Pursuit Group. Lastly, the 95th was also supposed to be reestablished soon. It had been temporarily demobilized at the Air Service General Depot in Garden City, New York, on March 18th, but when Mitchell found out, he intervened to keep the squadron in existence.⁷⁵ The unit's records were sent to Selfridge pending the arrival of officers and men to restore the squadron to operational strength.

The First Pursuit Group had been reactivated on June 10th, under the command of Major Davenport Johnson.⁷⁶ Johnson and his small staff were supposed to help Chambers and the recently arrived squadron commanders from the 95th, 27th, and 147th Aero Squadrons rebuild their units and receive and distribute aircraft. There was much work to be done before the squadrons could become fully operational again.

The first aircraft to arrive at Selfridge were a few worn-out Spads that had been shipped back from the Air Depot in France.⁷⁷ These were in very poor condition, and the experienced pilots were reluctant to allow their novice charges anywhere near them. Soon, however, other planes began to arrive. By the end of summer, the First Pursuit

⁷⁴ Ibid.

⁷⁵ Ibid., 123.

⁷⁶ Ibid.

⁷⁷ Chambers, *Reminiscences*, 58.

Group boasted four squadrons of operational aircraft: two flying British SE-5s and two flying German Fokker D-VIIs. Chambers' 94th got the SE-5s. The SE-5 was a decent design and had served the British well on the Front. It boasted a 180-horsepower, V-8 engine, a top speed of about 120 miles an hour, and a range of almost 300 miles.⁷⁸ The Air Service had procured 57 of these fighters at war's end to sustain its pilots' flying skills until American designs could be procured.

Although the Group now had suitable aircraft, their situation at Selfridge was less than satisfactory. The field was overgrown with tall grass.⁷⁹ Because there was very little money, the base leaders could only afford to have a relatively small strip mowed for air operations. Beyond this flight line, grass stood a yard tall. Often, when men landed off the strip or rolled into the tall grass, they would chew the tips off their wooden propellers, beating down the grass, as they taxied back to their hangars. It was an entirely unacceptable situation.

Chambers decided he could alleviate the problem by instructing his pilots to execute the short-field landing techniques he had mastered so long ago. He called his pilots together to describe the technique, concluding by saying, "I know that you have ample room to land these things – let me show you."⁸⁰ With that, he climbed into a Spad to demonstrate.

He took off, circled the field, and came in, setting his Spad down hard with a very short follow-on roll. Then he gunned his engine, and took off to demonstrate again. Two more times, he set the Spad down, with each landing taking less space than the one

⁷⁸ Mauer Mauer, *Aviation in the U.S. Army, 1919-1939* (Office of Air Force History, Washington DC, 1987), 83.

⁷⁹ Chambers, *Reminiscences*, 60.

⁸⁰ *Ibid.*, 60.

before. Chambers decided his little demonstration needed a big finish so, pulling into the air for his last time, he prepared for his shortest landing yet – the kind of landing he had made the day he first met Rickenbacker. He came around the field, and then dived very close to the ground. Just before the plane's wheels touched the ground, he pulled back on the stick so the plane would stall and settle firmly with hardly a roll. All went according to plan until the wheels made contact with the earth. The weight was too much for the heavily worn support structure. The landing gear tore through the bottom of the lower wing so that the plane almost slid on its belly. Fortunately, the plane did not cartwheel or its occupant might have been seriously injured. Chambers sat there for a moment, stunned, as his pilots gathered around to make sure he was okay. There is no record of how he explained that landing, but undoubtedly he made light of his mishap and warned his charges not to attempt that particular variation of his short-runway landing technique.

Except for a blown tire earlier during the war, this had been Chambers' first crash. It would have been easy for him to blame it all on himself, attempting to show off to the new pilots, however, he must have realized that the planes were wearing out – that they could no longer handle the strain of operations they could endure when they were new. If so, it was an inkling of doubt over the safety of the Air Service's aircraft, a doubt that would only grow in his mind over the coming months.

In late July or early August, Mitchell asked Chambers to travel to McCook Field, just outside of Dayton, Ohio, to try out some American prototypes.⁸¹ McCook was home to the Air Service Engineering School, and served as a center for aviation research and development. Chambers arrived to find three aircraft parked on the grass strip: a new Thomas-Morse pursuit plane; a second fighter built by Alfred V. Verville of the Air

⁸¹ Account from Chambers, *Reminiscences*, 58-59. The exact date of this trip is not clear in his interview.

Service Engineering Division, and a third called the Orenco, which also had been designed at McCook Field. He was very pleased with the Verville model, which, at that time was propelled by a 300-horsepower Hispano engine. Chambers found the plane to be sturdy and stable, but a little tough to control because, he later explained, it was “out of balance.”⁸² He was not as pleased with the other two prototypes.

Chambers labeled the Orenco and Thomas-Morse planes “man-killers.”⁸³ Both fluttered in flight, creating disturbing vibrations. He recalled of the Orenco:

I wanted to try it, as a shooting platform, so I would dive her at a target and see what she could do. This flutter set up until you couldn't see anything. You could hardly see the ground. I'd never run into it before, and it scared me half to death. I knew the wings were coming off.⁸⁴

Chambers landed and strode over to address Colonel Thurman H. Bane, the Engineering School's Commander. He described the plane as a man-killer and said he “wouldn't fly it again for any money in the world.”⁸⁵ The Thomas-Morse was only a little better.

Bane was angry with the experienced air ace over his rejection of the Orenco. Chambers reasoned that it was because the Orenco had been produced there at McCook. Despite his dire predictions of disaster should the plane fly again, Bane was unconvinced. The next day one of McCook's regular test pilots took the Orenco up on a test flight. The wings collapsed during a dive and the pilot was killed in the ensuing crash. Chambers undoubtedly interpreted this as another indicator of the direction the Air Service was heading. Not only was the current inventory of leftover warplanes becoming increasingly

⁸² Ibid., 58. This Verville was later refitted with a 12-cylinder, 600-horsepower Packard engine and redesignated the VCP-R. In this configuration, it appeared as America's entry into the esteemed James Gordon Bennett Airplane Race in France in September of 1920 (Mauer, *Aviation in the U.S. Army*, 168).

⁸³ Chambers, *Reminiscences*, 59.

⁸⁴ Ibid.

⁸⁵ Ibid.

dangerous to fly, but the planes the Army was considering as their replacements were poorly designed. It must have appeared to Chambers that the federal government did not share his vision of America regaining its position as the world's leader in aviation. He was disheartened.

While at McCook, Chambers met Rickenbacker, who was in town pitching an idea for a commercial airline service between San Francisco and Los Angeles.⁸⁶ In the course of getting his automobile company started, Rickenbacker had come into contact with William C. Durant, founder and then head of General Motors. Durant's son, Cliff, was in charge of the Chevrolet-General Motors interests on the West Coast at that time. Rickenbacker convinced the elder Durant that if he would fund the airline, his son could oversee its operation. Will Durant was intrigued enough to send the war hero to Ohio to meet with executives at the General Motors-owned Wright Aircraft Company plant there in Dayton. To Chambers it must have appeared his old friend was on the cutting edge of technology. He was undoubtedly envious.



Fig. 31. Left-to-Right: Alfred V. Verville, Aeronautical Engineer, McCook Field; Rickenbacker, Major Rudolph W. ("Shorty") Schroeder, Chief of McCook's Flight Test Section; and Chambers outside the Miami Hotel, Dayton, Ohio.⁸⁷

⁸⁶ Chambers, *Reminiscences*, 61.

⁸⁷ Official U.S. Navy Photograph, USAU Archives. No date appears on the original, only the year, "1919" and the names of the men in the picture. Verville designed the aircraft Chambers flew at McCook.

Chambers flew back to Selfridge in one of the Group's few remaining Spads. Although the plane was in poor condition, it was the model he favored. Upon his return, he decided to enter in the upcoming New York-to-Toronto air race, scheduled to begin August 25th, 1919.⁸⁸ He wrote to Washington for permission.

Immediately after the Armistice, as pilots and planes returned from Europe and America was caught up in a victory euphoria, there was a general erosion in centralized control of flight planning.⁸⁹ General Charles T. Menoher, the non-flying Chief of the Army Air Service, believed subordinate commanders should accept any reasonable invitations for flying exhibitions, including races and aerobatic performance, in order to acquaint the public with Air Serve personnel and aircraft capabilities.⁹⁰ Consequently, Army pilots participated in a wide variety of cross-country flying contests, exhibition flights, and local air races. This freedom, however, was short lived. An ensuing wave of aircraft mishaps, resulting in a higher stateside death rate than had occurred during the war, jolted Menoher into reconsidering his stance. He restricted flying operations dramatically. He did this to minimize risks, but also to employ more efficiently the Air Service's remaining aircraft.

Menoher did, however, make an exception to allow Army pilots to continue to fly in major air rallies, so long as these pilots applied through Air Service headquarters in Washington, DC. In this manner, it was hoped, only the most skilled pilots would be allowed to perform for the public, reducing the risk of embarrassment, while at the same time Army pilots could keep abreast of the latest technical advancements introduced by

⁸⁸ Chambers' decision to enter and the account of his flight from Chambers, *Reminiscences*, 59-60. Specifics on the race from Mauer, *Aviation in the U.S. Army*, 28-29.

⁸⁹ Mauer, *Aviation in the U.S. Army*, 28.

⁹⁰ *Ibid.*, 20.

their civilian rivals. Menoher imposed one additional restriction: Army pilots were forbidden from accepting prizes in the event they won any competition. Under Menoher's strict guidance, Chambers was one of thirty-two Army fliers permitted to compete in the Toronto-to-New York race.

The racers would lift off at either Toronto or New York and fly a round-trip circuit. Along the way, they would land and refuel at Buffalo, Syracuse, and Albany. Each pilot was to circle each of the service fields once, land, refuel, and then wait thirty minutes before taking off again. Racers were given two days, sunup to sunset, to complete the flight with additional time added as needed to compensate for any weather delays. The winner would be the pilot who completed the round trip quickest, though the Army was more interested in the performance capabilities of the aircraft participating, and sent engineers to observe and record each plane's performance.

In preparation for the race, Chambers had his mechanics fine-tune his Hispano Suiza motor and go over his plane with a fine-toothed comb, looking for any anomalies that might hurt his performance. When his was plane ready, he took off to join the other racers at Toronto, but he never made it.

Flying over London, Ontario, about one hundred twenty-five miles from Toronto, Chambers' fuel tank suddenly ruptured, spraying him in gasoline. Shocked by the sudden deluge, he retained the presence of mind to kill the motor, to reduce the risk of fire, then began looking for a place to land. On the outskirts of London was a large, green expanse, seemingly perfect for his needs. He nosed the crippled Spad into a circular descent, gliding toward the open field. On closer examination, the field turned

out to be a golf course. So long as the ground was firm, and he avoided any sand or water traps, he would have no trouble landing here.

He executed a perfect dead-stick landing, a tricky maneuver in the Spad. Although the wheels had merely compressed the grass underneath them, his tailskid had gouged a shallow rut from his point of contact all the way to where he finally rolled to a stop. The groundskeeper was livid. He followed Chambers around, waving his arms and pointing to the damaged turf.

He managed to appease the groundskeeper, and then attempted to diagnose the fault that had grounded him. He was able to ascertain that his fuel tank had ruptured. A large hole on one end appeared to be the result of internal rust. Chambers had someone send for a tinsmith, who arrived a short time later. With the tinsmith's assistance, the two removed the fuel tank and examined it closely. The interior was badly corroded. The tank would have to be replaced. For now, however, Chambers merely wanted the tank repaired so he could get to Toronto and enter the race. The tinsmith went to work fashioning a patch. By the time the work was done, it was too late to take off. Chambers found lodging for the night, and returned to his plane the next morning.

As soon as he had taken off, however, he noticed his tank was leaking again. He realized he would never be able to finish the 1,040-mile round-trip racecourse with a leaky fuel tank. Frustrated, he turned his Spad and headed back to Selfridge.⁹¹ Upon

⁹¹ Chambers did not get to fly in the New York-to Toronto race, however, thirty-one of the forty-nine entrants were military pilots. Bad weather delayed the New York fliers' takeoff for five hours, but then the race got underway. Thirty pilots completed the round-trip race. First Lieutenant Belvin W. Maynard was the top military entrant in terms of speed, averaging 138.8 miles per hour in his DH-4. Major Rudolph Schroeder, whom Chambers had met at Dayton a few weeks earlier, won top honors in a handicap contest. Both these military pilots, however, were bested by a civilian, Roland Rohlfs, Chief Test Pilot for Curtiss Aeroplane and Motor Company. Rohlfs took overall first place in both speed and handicap competitions flying a Curtiss Oriole (Mauer, *Aviation in the U.S. Army*, 29).

returning to Selfridge, he initiated an inspection of other Spad fuel tanks and found them all badly corroded. The entire inventory would have to be retanked.

Before the mechanics had time to begin work on retanking the Spads, however, the entire Group received word it was to move to Kelly Field, outside San Antonio, Texas. This was to be its winter quarters. Instead of repairing the Spads, they were dismantled, along with the Fokkers and SE-5s, for shipping to Texas. On August 28th, Chambers, his wife and squadron, and the men of the 95th, 27th, and 147th Aero Squadrons boarded a train for Kelly Field. They arrived at San Antonio three days later.

Kelly had changed a great deal since Chambers had last seen it in the summer of 1917. Gone were the temporary structures where the men had lived while building the base. Gone too was the small cotton patch that had served as the field's first landing strip, along with the surrounding cacti, mesquite, prickly pears, and fire ant mounds that had rendered the terrain so unsuitable for flying. The Kelly Field of 1917 seemed a far cry from the major training center the Air Service envisioned upon founding the base. But much had changed in the ensuing two years.

Shortly after Chambers' departure in 1917, the camp had blossomed. With the beginning of aviation training at Kelly, the small Aviation Section Signal Corps depot at nearby Fort Sam Houston found itself overwhelmed with support requirements.⁹² The unit was undermanned and its small (50' x 150') warehouse was wholly inadequate for the immense training task at hand. The Aeronautical Office in Washington authorized a

⁹² Developments at Kelly Field from: "A History of Kelly Field," 238-240 ; *Kelly Field and the Great War*, Lieutenant H. D. Kroll, ed. (Press of San Antonio Printing Company, 1919), "Kelly Field," 22-23; and "Air Service Mechanics' School," 132-133; and First Lieutenant Esther E. Kirkland, *History of the San Antonio Air Service Command* (Headquarters, San Antonio Air Service Command, Kelly Field, Texas, 24 July 1944), 1-3. These documents are on file at the Lackland Air Force Base Historian's Office, Lackland Air Force Base, Texas.

tremendous expansion, awarding a construction contract to Stone and Webster, a local company, for a new warehouse, barracks, shops, hangars, classrooms – all the buildings necessary for a major training center. It had grown quickly By October 1918, there were 680 officers, 17,000 enlisted men, and 363 aviation cadets stationed at Kelly.⁹³

Yet with the Armistice came a radical downsizing in Air Service operations. War Department General Order Number 7, dated January 30, 1920, designated two flying schools, one at March Field, California, and the second at Carlstrom Field, Florida. In response, Kelly Field began phasing out its flying school. Three months later, General Order Number 18 confirmed the obvious, making Kelly Field the central mechanics school for the Air Service.

When Chambers arrived with his squadron and the First Pursuit Group officers in August of 1919, the flying school was still in full swing, albeit with a much smaller complement of cadets than it had taught during the war. Chambers' job, and the job of the entire Group, would be to maintain the combat skills learned during the war by passing those skills along to the new pilots just entering the ranks. It was not exciting work.

When the group's airplanes arrived a few days later, he was unhappy to see the Spads were not going to be put back into use. Instead, his squadron would fly British SE-5's. In Chambers' opinion the SE-5 was a capable plane but not the equal of his beloved Spad.⁹⁴

For the second time in four months, Chambers set about the business of setting up his squadron. He posted duty rosters, set flying schedules, and worked to bring his assigned

⁹³ Ibid., 239.

⁹⁴ The Spads remained crated for over a year until attrition of the SE-5s forced the Army to place them back into service (Mauer, *Aviation in the US Army*, 83).

aircraft into operational condition. He also secured quarters for himself and Myrtle, and began to participate in the Army's many social activities. Unlike Selfridge, it actually appeared they might be at Kelly Field for some time. There is no record of Mrs. Chambers' reaction to life at Kelly, though it is likely that she was not pleased with her new surroundings. It was hot, dusty, and her husband's position at the base did not afford him the same social access that she had observed when she met the gallant young air officer in Coblenz. Further, she disliked visiting with her husband's friends when they would come over after a day of flying. They were dirty, greasy, and smelled of engine fumes. The stately contralto singer fancied a more elegant lifestyle for her family. One day she would have it.

On September 18th, Harvey Weir Cook took over the 147th Aero Squadron.⁹⁵ Cook had been with Chambers since June of 1918 and he was undoubtedly glad that his friend was staying so near. He was also glad when his friend from Colomby-les-Belles, Major Field Kindley, arrived on station in early January, 1920. Kindley took over as the squadron commander of the 94th as Chambers moved onto the Group staff in preparation for replacing Davenport Johnson.

On January 27th, General Menoher arrived to inspect the Group.⁹⁶ It may have been a dress rehearsal for a planned visit by General Pershing.⁹⁷ Five days later, on February 1st, Chambers was helping Kindley and the other squadron commanders prepare for Pershing's visit by practicing some formation flying. At the conclusion of the practice,

⁹⁵ *Group History*, 131. Cook held this position from September 18th until October 30th, when it was given temporarily to Captain Frank Tyndall. Tyndall only stayed at Kelly until December 3rd, when Cook was restored as Commander. He held the position until his separation on December 26, 1919.

⁹⁶ *Group History*, 138.

⁹⁷ Chambers mentions Pershing's visit in his January 8, 1969 letter to Lela Givens (USAU archives), however, this author could find no record that Pershing visited Kelly during the winter or spring of 1919. The visit probably was canceled. The description of this flight is from two letters Chambers wrote to Lela Givens, the first dated January 8, and the second February 5, 1969. Both are in the USAU archives.

Chambers and Kindley stayed aloft to engage in some aerobatics. Perhaps, Chambers reasoned, General Pershing would enjoy seeing a mock dogfight. The two, both flying SE-5s, dived, looped, and turned on each other again and again, each trying for the advantageous position to the rear of his adversary. It was great fun and the two were enjoying themselves immensely.

Then, in a moment, bliss turned to horror. Chambers later recorded what happened:

All of a sudden the wings came off Field's SE-5 and he spun in, crashing in a ditch at the west side of the field about a mile from the hangar line. I landed my SE-5 as close as I could and ran over there. The plane had burst into flames when it crashed and by the time I got there, Field's body had been pretty well consumed. The way the plane struck, I am convinced he was killed instantly when he hit. This was shortly after the end of the war and we were all used to seeing our fellow pilots killed, but Field's death really shook me up.⁹⁸

Chambers stood there by the flames for five – maybe ten – minutes before the fire truck arrived. There was no Fire Department at that time, merely a truck carrying flame-retardant chemicals. The men from the truck put out the fire then removed Kindley's charred remains as Chambers watched. There was nothing he could do.

An investigation conducted after the accident found that the streamlined flying wires supporting the wing structure had oxidized.⁹⁹ One of these rusted wires had broken at the point where it made contact with a tightening turnbuckle. In checking other SE-5s, mechanics noted that all the wires were in a similar state. The entire fleet was grounded until the wings could be rewired with stainless steel. Later, Chambers and his fellow officers of the Group learned that the British had encountered similar problems, with similar results, in their own SE-5s. The accident – and Kindley's death – could have been prevented.

⁹⁸ Ibid., January 8, 1968.

⁹⁹ Ibid.



Fig. 32. Field Kindley and his mascot "Fokker."¹⁰⁰

Kindley's death, word of Dave Peterson's death in Florida, the incident with the undercarriage at Selfridge, the rusted Spad fuel tanks, and the fleet-wide SE-5 problem just uncovered convinced Chambers that flying was becoming increasingly dangerous.¹⁰¹ His experience with the new models at McCook Field, where two of the three proposed designs were inherently unsafe, seemed to indicate that there would be no quick solutions to the aircraft problems bedeviling the service.

On February 10th, two new pilots, Second Lieutenant Harry W. Brokaw of the 94th, and First Lieutenant Harry D. Smith of the 27th, were killed when the Fokker D-VII's they were flying collided in mid-air.¹⁰² It was an accident, but it no doubt contributed to Chambers' growing apprehension over flight safety.

¹⁰⁰ US National Archives. This picture was taken during the war.

¹⁰¹ "Pete" Peterson was killed in March of 1918. He was flying a DH-4 off of a beach at Sea Breeze, Florida when, at seventy-five feet, his plane suddenly dropped nose forward and crashed into the ground. He was killed immediately. His passenger, another Army officer, survived but was severely injured. Chambers probably learned about the accident from Rickenbacker and Campbell when he met with them in New York in June. (Account from *Kelly Field Eagle*, Volume 3, Number 6, Thursday, March 20, 1919, page 2. Copy on file at Lackland Air Force Base Historian's Office.)

¹⁰² *Group History*, 138.

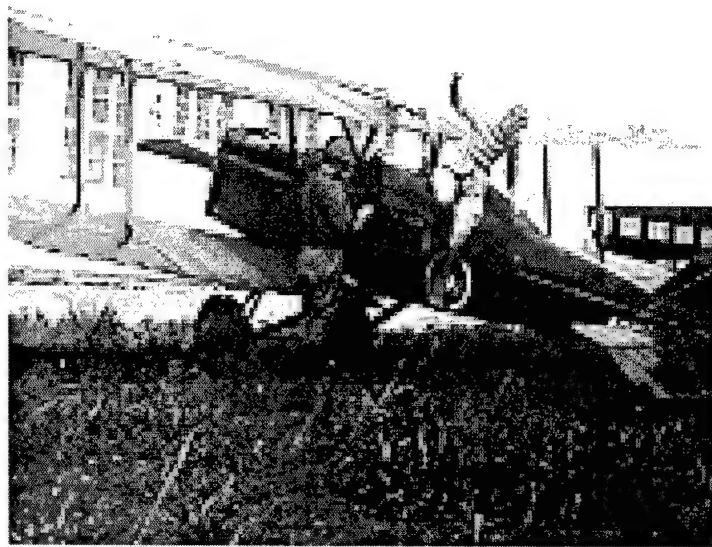


Fig. 33. Chambers jumps from his SE-5, Kelly Field, 1919.¹⁰³

In early spring, Rickenbacker contacted Chambers to inform him that he had convinced the Durants and the executives in Dayton to back the airline in California.¹⁰⁴ To help sell the idea, Rickenbacker had recommended Chambers as a possible manager for the new venture. The Durants were delighted and instructed Rickenbacker to forward their offer to Chambers. At about the same time, Mrs. Chambers informed her husband that she was pregnant and that the baby was due in late fall.¹⁰⁵ Chambers must have been torn at this time. He had stayed in the Army Air Service, at Billy Mitchell's urging, with the promise that he would take over the First Pursuit Group. Now that this goal was in sight, he began to question whether or not the Air Service would weather the massive budget cuts, and, if it did, would he even survive to take command, given the conditions of the planes the Army provided?

¹⁰³ From Winnie Chambers' photo album

¹⁰⁴ Chambers, *Reminiscences*, 61.

¹⁰⁵ Ackerly *Interview*, 12.

The budget cuts affected more than just the planes Chambers would fly. The National Defense Act of 1920 cut Air Service appropriations from its wartime high of \$460 million per year to a mere \$25 million.¹⁰⁶ General Menoher had argued unsuccessfully that the money was insufficient even to sustain current operations, let alone conduct research and development of new and improved airframes. The enormous cuts were also going to hurt the Air Service's personnel. Under earlier laws, aviation officers were given flight pay, then known as an "aviation increase," which consisted of the rank, pay, and allowances of the next higher grade. In addition, pilots received an additional incentive based on their aeronautical rating. A Junior or Reserve Military Aviator received an additional fifty percent of his base pay, and a Military Aviator received seventy-five percent. The 1920 Act was to do away with these temporary promotions and flying incentives for all but a few officers: those who had earned the Military Aviator rating during the war, for their distinguished service.¹⁰⁷ As Rickenbacker dangled the Durants' salary and the promise of a safer and more stable life before him, the Air Service seemed to be offering paycuts, demotion, and the increased risks involved in flying those deteriorating Army airplanes.

It appears the Air Service reacted quickly in an attempt to keep its experienced pilots on active duty and to shield them from the upcoming demotions and pay cuts. On February 25th, the War Department elevated eleven officers to the Military Aviator rating.

War Department, Washington¹⁰⁸
 Special Orders No. 46-0 1bt-358 Extract
 February 25, 1919

¹⁰⁶ Mauer, *Aviation in the U.S. Army*, 44-47.

¹⁰⁷ In his *Aviation in the U.S. Army*, he argues there were only three such men on active duty in early 1920, Major Carl (Tooe) Spaatz, Major John N. Reynolds, and Major Lewis H. Brereton (Mauer, 47).

¹⁰⁸ Copy of this G. O. from USAU Archives. Rickenbacker was already out of the service by the time this order was published. He had separated on February 13th, 1919, in the grade of major.

213. Under the provisions of Section 6 of an Act of Congress approved Jul7 (*sic*) 14, 1917, each of the following named officers, Air Service, Aeronautics, is rated as a Military Aviator from the date set opposite his name.

Lieut. Colonel William Thaw	February 15, 1918
Major David McK. Peterson	May 15, 1918
Captain Douglas Campbell	May 28, 1918
Captain James A. Keating	Aug 8, 1918
Captain Edward V. Rjckenbacker	May 28, 1918
First Lieut. Merton L. Campbell (deceased)	Aug 13, 1918
First Lieut. William P. Erwin	Sept 12, 1918
First Lieut. Lloyd A. Hamilton (deceased)	Aug 13, 1918
First Lieut E. W. [Elliot White] Springs	Aug 22, 1918
Second Lieut John O. Donaldson	Aug 10, 1918
Capt. Reed G. Landis	Aug 8, 1918

A few weeks later, the Air Service got around to taking care of Chambers and a few other notable pilots.

War Department, Washington¹⁰⁹
 Special Orders No. 95-0 WK-1bt-358 Extract
 April 23, 1919

110. Under the provisions of Section 6 of an act of Congress approved July 24, 1917, each of the following named officers is rated as a Military Aviator to take effect this date.
- Brigadier General William Mitchell, A.S.A.
 - Lieut. Col. Lewis W. Brereton, A.S.A.
 - Lieut. Col. John N. Reynolds, A.S.A.
 - Major Melvin A. Hall, A.S.A.
 - Major Carl Spaatz (*sic*), A.S.A.
 - Captain (*sic*) Reed M. Chambers, A.S.A.

On April 26th, Chambers received another incentive to stay when Major Johnson was given his orders to report to Langley Field, Virginia. Replacing Johnson, Chambers took over as the Commander of the First Pursuit Group.¹¹⁰ Mitchell had kept his promise.

¹⁰⁹ Copy of this G. O. from USAU Archives. Note that all three of the men Mauer cites in Footnote 113 are listed on this G.O.

¹¹⁰ *Group History*, 138.



Fig. 34. Major Reed Chambers, 1919.¹¹¹

He was now the leader of the most prestigious pursuit group in the Air Service. It was the crowning achievement in his service career.

While Chambers was undoubtedly honored by his appointment, he was increasingly intrigued by the opportunities that awaited him beyond the Air Service. In conversations with Captain Arthur Brooks, then a squadron commander and a close friend, he shared his concerns over the upcoming personnel reductions, and his dreams of starting an airline.¹¹² Brooks recalled:

¹¹¹ From personal collection of Mrs. Sharon Turner, Chambers' granddaughter. The photo is not dated, but was taken in a San Antonio studio, probably in the spring of 1920, after his appointment to command the First Pursuit Group. Written across the bottom right-hand corner of the photograph is an inscription: "To Major & Mrs. Strat, Reed M. Chambers." George Stratemeyer became commander of the Air Service Mechanics' School at Kelly Field on January 7th, 1918 (Kroll, ed., 133). He and Chambers became friends and remained in contact for the remainder of the latter's life.

¹¹² Arthur Brooks, *Oral History*, AFHRA Oral History Collection, File K168.051-10TAPE1, transcription by author, page 3. Brooks was a World War I ace, credited with six kills. He flew Spads for the 139th Aero Squadron.

Reed and I talked at length on many occasions to assess the future of aviation in as much as we both seemed to want to stay in the game and we assessed it on the basis of possibilities for all kinds of companies, planes, locations, but nothing particularly came of it except that the general idea was what was going to stop aviation from becoming a great competitor to railroads and steamships. We didn't quite put it on the basis of what could be done immediately, but we knew it was coming and the question arose how we were going to get into it ourselves...

All this period I was just questioning whether I was going to stay in the regulars, which I was in – that is the regular Army Air Service – not as an emergency officer – and from time to time questioning what Congress was going to do about throwing out the so-called emergency officers – such as Reed Chambers and I were.¹¹³

The lucrative offer from the Durants, Myrtle's pregnancy, and his concerns over the safety of the Army's aircraft finally helped Chambers arrive at a decision. He put in his request for retirement, to become effective on July 1st, the same day that the emergency officers were supposed to revert to their permanent ranks.¹¹⁴

The week before he was to leave the Army, Chambers' men decided they should throw him a huge "retirement" party.¹¹⁵ Cognizant of the restrictions of Prohibition, but wanting to show their revered leader the best of times, the men decided to hold their soiree at Port Isabel, right on the Mexican border. From that location, they could easily venture over the international border to procure all the tequila and *aquardiente* they wanted. The morning of the party, as many airplanes as could fly took off and headed south. They landed on the beach at Port Isabel, lit fires and swam, drank, laughed and sang until mid afternoon, when they determined it was time to head home. Chambers was one of the last revelers to leave the beach. Packing three bottles of *aquardiente* behind the seat in his SE-5, in order to continue this celebration later, he started his engine and rolled down the beach, effecting a perfect takeoff.

¹¹³ Ibid. Brooks stayed through the cuts of 1920, reverting to the grade of Lieutenant. By 1922, after three such cuts, he felt he had endured enough and left the Air Service.

¹¹⁴ Chambers, *Reminiscences*, 61.

¹¹⁵ Details of the party and flight are from Chambers, *Reminiscences*, 61-62.

Heading inland to avoid the strong winds over the coast, Chambers and a handful of stragglers from the party found themselves confronting billowing black clouds just north of Mercedes, Texas. To their horror, in the midst of the terrific rainstorm ahead, they saw the menacing black funnel of a tornado pushing down from the base of a cloud. It was every man for himself as the impromptu formation broke up, each pilot plotting a course to ensure his best chance for survival. For Chambers, safety lay on the ground. Spotting a freshly plowed field, he nosed the SE-5 down carefully, then pulled up at the last minute, executing another of his short-strip landings. He had calculated that a long roll in the soft earth might result in disaster. Had a wheel become lodged, the plane might have flipped over. Having landed safely, Chambers was still in danger. The deluge was quickly moving in his direction, with that ominous funnel cloud still buried in its core.

Reel leapt from his plane to find something with which to tie it down in the face of the steadily building winds the storm had created. He found a roll of barbed wire and some wood, staked his plane to the ground, then crawled under the wings of the SE-5 to wait out the storm. In a few minutes, the worst of the downpour was over and he could see clearing skies to the north. He began unstaking his plane and removing the barbed wire, carefully so as not to tear the wet airplane fabric. When he finished removing the wire, he started his engine and began rolling across the muddy field.

Splashing through a huge puddle, Chambers heard a crack as a wad of mud, probably with a rock embedded in it, crashed against his propeller. It was too late to stop and investigate, he was running out of field. Pulling back on the stick, the SE-5 leapt out of the mud and clawed for altitude. At about two hundred feet, and directly over the town of Mercedes, the prop suddenly sheared off. He had no time to consider the ramifications

of this disaster, as a split second later, with a thundering crash, the entire engine broke free of its mounts and vaulted sideways out of the fuselage. He did not have enough altitude to return to the field he had just left. With the engine gone, the plane was horribly unbalanced, making it difficult to even keep it level. A turn would have been almost impossible. Chambers pushed the stick forward and hoped for a suitable landing site within the town.

Gliding earthbound, he noted a small irrigation ditch directly ahead of him. He hoped the water was not too deep. At least it was a location away from people. Aiming for the ditch, he tried another of his short-strip landings, to minimize the risk of rolling. It did not work.

The wheels hit the water in the ditch and lodged there, stuck in thick mud. The plane vaulted over its landing gear, catapulting Chambers up and out of the cockpit, face-first into the irrigation ditch. He had flown over the machine-gun mounted on the top wing, but apparently had caught the top of his hands on either the gun or wing during this brief, free-form flight; his knuckles were raw.

Sitting up in the drainage ditch, he was relieved to find the water not too deep. A few inches of water from the recent thunderstorm covered a thick layer of viscous mud, the same mud that covered his face. He removed his goggles and began rinsing away the mud. Looking back, he saw the inverted SE-5 lying broken in the ditch, a few feet away. Then he remembered the liquor. It would not do for the First Pursuit Group Commander, a major in the Air Service, to get caught with three bottles of liquor during Prohibition. He slogged back toward the fuselage and wriggled under the inverted airframe to get to the cockpit. He found the three bottles of *aquardiente* and drove them, one at a time,

neck first into the mud at the bottom of the ditch. He recalled later, "as far as I know, they're still down there."¹¹⁶

By the time he had shimmied back out of the cockpit, help had arrived. He was taken to a nearby Army Infantry unit that dressed his wounds, cleaned his clothes, and let him call back to Kelly Field for help. The next day, the Group headquarters staff sent a DH-4 down to recover its missing commander. Chambers' last flight for the Air Service had been memorable.

Chambers was relieved of command on June 29th, replaced by his friend and confidant Captain Arthur Brooks. On the 30th he received his formal discharge paperwork certificate. It read:

To all who shall see these presents, greeting: This is to certify that by direction of the President and under the provisions of section nine of the act of Congress, approved May eighteen, nineteen hundred and seventeen, Reed M. Chambers, Major, Air Service Aeronautics was honorably discharged from the military service in The United States Army at Kelly Field, South San Antonio, Texas on the thirtieth day of June, 1920.

Battles, engagements, skirmishes: Aulse-Marne (*sic*), Champaign-Marne (*sic*), St Michiel (*sic*), and Muse-Argonne (*sic*)

Medals awarded: D.S.C. [Distinguished Service Cross], Three Oak Leaves; Legion of Honor; *Croix de Guerre*, Palm and Star.

War chevrons authorized: Three Gold Chevrons.

Remarks: Commissioned Aug. 22, 1917. Military Aviator for distinguished service. A capable officer who has rendered very distinguished service.¹¹⁷

Chambers was a civilian again. Anxious to break into civilian aviation, he had an appointment to meet Rickenbacker in Dayton. Gathering his pregnant wife and their personal belongings, he caught a train in early July, and stepped forth into his new life.

¹¹⁶ Chambers, *Reminiscences*, 63.

¹¹⁷ Chambers' discharge certificate, copy in USAU archives.

Chapter 5

Flying for a Living

In his three years of military service, Chambers had earned a commission, learned to fly, become an ace, and had risen to command the most prestigious pursuit group in the Air Service. In addition, he had managed to save several thousand dollars during his last months of service.¹ The award of his Military Aviator's wings in April, and the corresponding seventy-five percent increase in pay, had been mostly responsible for this nest egg. Despite all this, upon leaving the Army, Chambers was troubled. The money would not last long; he needed to locate a steady job as quickly as possible.²

The virtual absence of a commercial aviation industry meant there were few job prospects in flying. Chambers undoubtedly considered a career in entertainment – barnstorming. He had honed his aerobatic skills in the service and frequently performed in the skies of Koblenz during his time with the occupation force, however, a career as an aerial performer hardly appealed to him. In addition to the initial expense of buying a surplus plane from the government, he would need money for fuels, parts, repairs, as well as travel and living expenses. Barnstorming, however, could be dangerous work. A single accident could destroy his investment and leave him permanently disabled or worse. It was hardly a satisfactory career for a family man.

¹ Chambers, *Reminiscences*, 64.

² Unless specifically listed otherwise, the material in this chapter came from Chambers, *Reminiscences*, 53, 63-68.

He might have also followed Shorty Schroeder into test flying, however, Chambers probably saw that this career was also fraught with dangers and paid poorly. Another consideration was that those pilots who had returned from Europe immediately after the war, some eighteen months before Chambers left the Army in search of employment, had already taken most of the more desirable flying jobs.

Chambers realized that given the status of American aviation, if he was going to pursue a flying career, he was going to have to locate or create new opportunities. Fortunately, he would not have to do this alone. He remained well connected to his circle of friends and acquaintances and relied heavily on them for help.

Perhaps his closest friend was his old commander, Eddie Rickenbacker.

Rickenbacker had stayed in touch with Chambers to keep him updated on the Durants' proposed airline, while simultaneously working out the details on his own automobile corporation. Aware that things were happening wherever Rickenbacker went, Chambers wasted no time, hurrying to catch up with his old friend just as soon as his discharge was finalized. At the time Rickenbacker was in Chicago working on a deal to fly for the Republicans' 1920 presidential candidate, Warren G. Harding.³ Will Hays and Albert Lasker, the national chairman and treasurer of the Republican party had approached Rickenbacker for his assistance in helping to create an image of Harding for the American voting public.⁴ After several conferences with Harding, however, the

³ Harding's "flying campaign" from Chambers, *Reminiscences*, 63, and Rickenbacker, *Rickenbacker*, 171.

⁴ Harding was not well known outside his native Ohio and the party leaders thought a flying campaign might give Harding name recognition as well as establishing him as a progressive, modern candidate in the public's mind. Will Hays was the Republican National Chairman from 1918 to 1920, the first Chairman to remain in place after completing a national election. A deeply religious man and an elder in the Presbyterian Church, Hays also broke tradition by opening National Committee sessions with a prayer. He was appointed Postmaster General in Harding's Administration (1921-1922), but is most remembered for his role as head of the motion Picture Producers and Distributors of America (1922-1945), where he created

candidate revealed that he planned on running a "front-porch" campaign from his home in Marion, Ohio.⁵ Undaunted, Rickenbacker phoned Hays and Lasker to suggest that the Grand Old Party purchase a surplus DH-4, so their candidate could shuttle between his national headquarters in Chicago and his home in Ohio, where he could make his front-porch pronouncements to the world. Harding would still become America's "flying candidate," while simultaneously maintaining his hometown image. Rickenbacker estimated the cost of purchasing the plane and running the shuttle for the campaign would run right at \$500,000. Surprisingly, the Republican leaders went for the idea. That was when Rickenbacker called Chambers to invite him aboard this new flying venture. Having no word on exactly when the Durants were going to begin their airline service, the unemployed air ace eagerly accepted Rickenbacker's lucrative job offer.

Meanwhile, in preparation for his new position as an aerial chauffeur, Rickenbacker went to Dayton where he made plans to buy a DH-4 and have it specially modified to make his prestigious passenger more comfortable in flight. The most notable of these modifications was the installation of a small canopy over the rear seat to protect Harding from the weather while in flight. Missing his friend in Chicago, Chambers continued to Dayton, his wife in tow, to rendezvous with his new partner. It would be a very short partnership.

Before Rickenbacker could even close the deal on the plane, the Democrats accused the Republicans of having a five-million-dollar slush fund at their disposal. This was touted as giving the Republicans an unfair advantage as the parties moved toward the fall

the Hays Code, a collection of morality standards to which movies adhered until the Code was rejected in 1966.

⁵ See Robert K. Murray, *The Harding Era, Warren G. Harding and His Administration* (University of Minnesota Press, Minneapolis, 1969), 45-61, for a discussion on the origin and execution of this front-porch campaign.

campaigns. In the face of the adverse public reaction to the Democrats' accusation, Hays and Lasker decided to back away from Rickenbacker's flying proposal. They feared the public might perceive Harding's flying as an extravagance, lending additional credence to the Democrats' charge.

With the campaign job suddenly gone, and with it his prospects for a steady income, Chambers again turned to Rickenbacker for assistance, this time for help in getting a starting date for the Durants' airline. Without a job, Chambers knew that he and his pregnant wife would soon find themselves running out of money. They were in a precarious position.

Will Durant told Rickenbacker to have Chambers join his son out in Oakland where they would begin acquiring planes to set up their airline. Overjoyed by this news, Chambers and his wife packed the few possessions they had brought with them and left Dayton for the West Coast. Upon their arrival a few days later, Chambers found a place for them to stay in the Oakland Hotel, and then went to see Cliff Durant. Durant explained that the airline was still mostly in the idea stage. There were no planes, no schedules, no routes, no passengers, and no airports. All of these would have to be purchased or created from scratch. He was going to oversee the venture, while Chambers would serve as the general manager. Realizing that the younger Durant had no experience in aviation and would be little help in starting an airline, Chambers convinced his employer that they should hire an operations manager to supervise the flying. He added that later they would also need an executive to manage the maintenance functions. Durant agreed that the two would need help getting things started.

Chambers had the perfect candidate in mind for the operations job. Although in town only a few days, he had run into an old friend, Leo R. ("Joe") Dawson. Dawson had served with the 27th Aero Squadron during the war, earning four confirmed victories, but transferred to the 94th in time to join the squadron for the occupation.⁶ Over the course of their time at Coblenz, he and Chambers had become close friends. Chambers was overjoyed to find him in Oakland. Dawson went to work straight away.

Durant had tried to get a head start on building his airline by purchasing thirty Standard airplanes he thought might be suitable for their needs. He had acquired the planes for a very low price, because they were surplus, but also because they had no motors. He tried to remedy this situation by buying a number of Hall-Scott motors, both four- and six-cylinder models, but no one as yet had attempted to install any of these. Chambers dismissed Durant's entire fleet as useless for airline operations. These were not transport planes, but two-seaters, wholly unsuitable for air transport, let alone passenger service.

As America's aviation firms had yet to produce a suitable transport plane capable of carrying passengers, Chambers and Dawson turned their attention to the European markets. The front-runner for their consideration was the Vickers-Vimy Transport, which came with Rolls-Royce engines. The two pilots convinced Durant that they could buy the planes from Vickers-Vimy without motors, and then reengineer the airframes so that they could be fitted with American Liberty engines. The huge surplus of Liberty engines after the war meant they could be purchased for a fraction of the price of the Rolls-Royce motors, and ensured a steady supply of spare parts. Durant concurred and

⁶ According to the *Group History*, Dawson was assigned to the 94th on November 18th, 1918 (page 113) and was discharged in New York on June 6th, 1919 (page 127).

the two pilots began to gather schematics to reengineer the planes for the American motors.

Meanwhile, on November 5th, Myrtle Chambers gave birth to a baby girl, whom she and her husband named Polly. With the baby born healthy and the new airline beginning to gel, Chambers looked forward to his trip to England, to purchase the planes. His joy was short-lived. A few days after Polly's birth, he was visiting Cliff Durant in the Oakland Hotel, when Durant received a call from his father. It was bad news.

I am broke. They have absolutely busted me. Do nothing with the airlines. Stop everything and get back here as quick as you can.⁷

In an instant, the airline was gone. The younger Durant hurriedly made his farewells, leaving all the materials he had acquired up to that point with Chambers, for him to liquidate as he saw fit.

Chambers had a little money left from his savings, but needed to find a steady income quickly to keep his small family fed and sheltered. He struck on the idea of using his mechanical skills to rebuild then sell Durant's fleet of Standard aircraft. The trainers were unsuitable for commercial applications, but might attract flight instructors or former pilots who simply wanted to keep current on their skills.

Chambers found that he had about thirty planes in various stages of disrepair, all without motors, but also had that inventory of surplus Hall-Scott motors that Durant had purchased. He discussed his idea with Joe Dawson, who agreed to help. Chambers' one-of-the-gang approach to leadership while he was Dawson's supervisor made for an easy transition as the two became partners in the new endeavor. By cannibalizing parts from the Hall-Scott Model 4s, the two pilots-cum-mechanics were able to produce a working

⁷ Chambers, *Reminiscences*, 64.

Hall-Scott Model 6. They had their first unit flying in just a few days. They sold the plane and, with the money they made, were able to realize a profit and repeat the process with two more engines. In this fashion they were able to make a satisfactory living for several months while waiting to see if something better would come along.

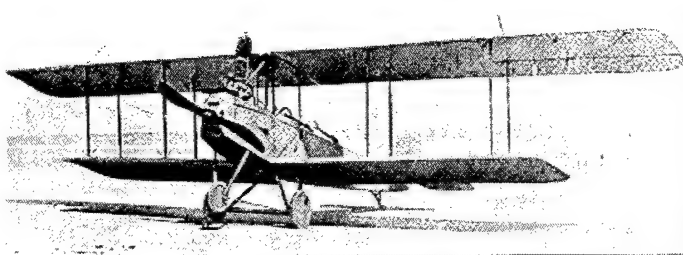


Fig. 35. Standard's "J-R" Model Military Trainer⁸

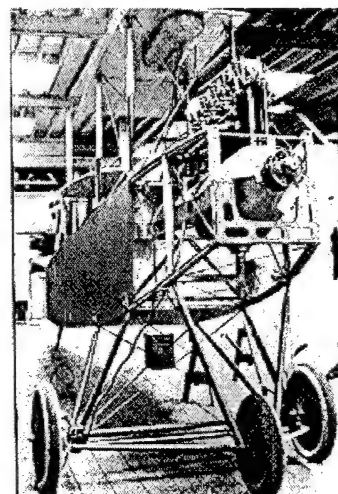


Fig 36. A J-R undergoing maintenance.⁹

Seeing some information on civilian aerial photography in trade papers, Chambers on the idea of opening his own business, specializing in aerial mapping.¹⁰ He figured that some of the large ranchers and oil companies might want to have a photographic record

⁸ *Jane's*, 246. The J-R was originally released with the 90-horsepower Hall-Scott Model 4, however, it was later refitted with the 175-horsepower Model 6. Cliff Durant purchased both types of motors for the Standard J-Rs he acquired in California.

⁹ *Ibid*. This photograph shows the tricycle undercarriage that was unique to the J-R. Unlike later aircraft, however, the J-R was not yet balanced on its tricycle undercarriage, but traveled on its back two wheels and a tailskid with its front wheel in the air until nearing take-off speeds. Still, it prevented flips, helped protect the propeller, and pointed the way to the balanced tricycle undercarriage that would become the industry standard.

¹⁰ H. A. Bruno, in his article "The Eye in the Sky," *Aero Digest*, May 1924, Vol. 4, No. 65, argued that:

Aerial photography, as much as any other aerial activity, has saved commercial aviation in America. General post-war abandonment of government aircraft building, and the consequent concentration under the peace time programmes of the Army and Navy Air Services plus the lack of governmental aid to air navigation placed our aeronautical industry in the stalemate class. Under these conditions special adaptations [like aerial photography] were the only hope for keeping alive any semblance of industry in this country.

Aerial photography served as one of the few viable commercial applications of aircraft until the introduction of suitable transport airframes in the mid 1920s.

of their holdings. Chambers discussed his idea with Joe Dawson, who agreed to remain on board to assist with both the piloting and mechanical work. Chambers decided to keep one of the Standards, with a Model 6 engine, to use as his photographic platform. Now he needed a camera and a photographer.

The camera he purchased was an Eastman mapping camera, a standard design used by the military at that time. He and Dawson mounted the camera outside the rear cockpit on the biplane Standard J-R, as they had seen it done during the war. For his photographer, Chambers wrote to Billy Mitchell, asking for help in locating some talented men who had already left the service. Mitchell recommended a man named Kennedy, who had been a sergeant during the war.¹¹ Kennedy had acquired extensive experience while serving as an aerial photographer for a reconnaissance squadron. Chambers wrote him immediately, and soon Kennedy arrived to complete the staff.

"Reed M. Chambers and Company" opened its doors in a small office at the Oakland airport early in spring of 1921. They had a plane, a staff, and an office; all they needed were some clients. Aware of how aerial photography might have benefited him and his firm were selling lots in Vero Beach, Florida, Chambers posted advertisements in real-estate publications, hoping to capture the interest of land developers. He also traveled into town and north to San Francisco to discuss his company's capabilities with prospective clients.

His first contract was with Senator James Phelan, who owned a huge ranch in Northern California.¹² Phelan wanted a map of his spread and Chambers assured him

¹¹ This author was unable to locate Kennedy's first name.

¹² James Duval Phelan was mayor of San Francisco from 1897 to 1902 and was president of the relief and Red Cross funds for the city after the earthquake of 1906. He served in the U.S. Senate from 1915-1922 (http://sunsite.berkeley.edu/uchistory/general_history/overview/regents/biographies_p.html).

that is exactly what he would get. Flying out of San Francisco, Chambers and Kennedy repeatedly flew over the spread, capturing a string of overlapping photographs from which the map would later be created. Kennedy used a twelve-inch, focal-length lens in the Eastman. The weather was superb, allowing Chambers to fly the straight, level passes that produced the best results. Adding to their success was the fact the land was relatively flat, making multiple passes from different angles and at different times of day unnecessary. Lastly, Chambers found that Kennedy was every bit the photographer Mitchell had promised. Because of all this, their first job was a smashing success. Phelan was elated with his new map and quickly shared word of his investment with his friends. Before long, Chambers had other wealthy ranchers clamoring for maps of their own spreads. It appeared his business would thrive.

Within five months, Chambers had realized a profit of "several thousand dollars."¹³ Further, his business had attracted the attention of the San Jose Chamber of Commerce. They approached the aerial photographer with a proposition. If he could make them a photographic map of their city, suitable for city planning, they would pay him a fair price, plus they would allow him to keep the rights to his map and sell it to real-estate developers and salesmen. Chambers was ecstatic and drew up a contract immediately.

Over the next few months, he and Dawson took turns flying Kennedy over San Jose, back and forth, to build their map. Again they were fortunate. The weather remained cooperative and the topography of San Jose was relatively flat. Within six months, they had all the photographs they needed, and began building their map. When they were finished, they admired their work. It was "a beautiful job," Chambers recalled later.¹⁴

¹³ Chambers, *Reminiscences*, 65.

¹⁴ *Ibid.*, 66.

The Chamber of Commerce paid the agreed upon fee and the company began selling enlargements of various portions of its maps to real-estate agents and developers, just as Chambers had planned. By the end of 1922, he and his employees were making a comfortable living from their business, and prospects for their future looked bright. Early in 1923, the Chambers learned they were going to have a second child, due that summer.

With an additional mouth to feed on the way, Chambers was overjoyed when the City of San Francisco contacted him, asking for an aerial map similar to the one he had produced for San Jose. Talking it over with Dawson and Kennedy, they decided they could do the job, and set a price. Kennedy had expressed some reservations about the more difficult terrain, but felt they could compensate for this by establishing markers on hilltops, which they could use to piece the final photographic map together. They set their price and entered into a contract with the City.

The Company moved to San Francisco in the spring of 1923 to begin their job. They drove around town placing ten-foot, whitewash circles on hilltops and strategic locations, for use in aligning and piecing their photographs. After completing this preparatory work, however, they found themselves unable to fly. Because of San Francisco's poor weather they were grounded for weeks. When they finally did get into the air, they found their Standard J-R unable to gain sufficient altitude to capture the landscape adequately. Their view was continually interrupted by the city's steep hills. The result was a series of pictures that could not be joined into a single, uninterrupted map. Very early into the project they realized that they would need a plane capable of greater altitudes.

As he had done so often in the past, Chambers decided to use one of his connections to overcome this latest obstacle. They went out to Crissey Field, at San Francisco's

Presidio, where his friend, then-Major Henry "Hap" Arnold was stationed. Chambers asked if he might borrow one of the Air Service's DH-4s to finish the job in San Francisco. Arnold denied the request, explaining that he could not allow a civilian to fly the military plane. Anticipating this, Chambers pointed out that Joe Dawson was still in the Reserves, and could pilot the plane as a uniformed officer. Arnold relented and provided the aerial photography company a single DH-4. Dawson flew it back to San Francisco, where he and his partners transferred the Eastman camera from the Standard onto the more powerful DH-4. That completed, they were again stymied by the weather. Over the next few weeks, they found very few opportunities to fly. Further, because they were not working at higher altitudes, all of the work they had performed in the Standard, at lower altitudes, was rendered unusable. By mid-fall they had enough photographs, so they returned the DH-4 to Crissey field and went back to their offices to build their map.

During this entire period, the Company had continued to pay overhead and salaries, which meant that all of its previous profits had been largely consumed. In order to keep flying, Chambers had sold portions of the map to developers – enlargements of specific areas of interest – but that had only brought in only enough money to continue operations. The firm's long-term survival depended on building the final map and finding a market for it.

The project, however, proved even more difficult than they had predicted. Even at the higher altitudes, the steep terrain made combining the photographs problematical. Often images had to be stretched, so that they would join, blurring the contents of individual frames. Adding to Chambers' financial worries was the fact that his second

daughter, Sally, was born on August 12, 1923. He had to find a way to make a profit from this endeavor in order to take care of his family.

When the map was finally completed, he took the finished product back to the Chamber of Commerce. They were not particularly impressed with his efforts. Further, because the job had taken many more months than originally forecast, much of the enthusiasm for the project had waned. The city paid their contract price, but did not request any additional enlargements or follow-up photographic support. Furthermore, because Chambers had sold selected portions of the final map while it was still being assembled, there was very little market for the completed product within the business community. Chambers had to admit that the San Francisco job had been a failure. As he recalled later:

Well now, if you know San Francisco, you know that is a different contour problem, and we were too stupid to realize that, for one; and two, we didn't realize what kind of weather we'd run into. That San Francisco had fog and clouds, at that time of year, which I hadn't made a study of.¹⁵

By failing to anticipate the difficulties he would encounter in terms of weather and terrain, he had doomed the enterprise to failure. Totaling his debts against his remaining assets, Chambers found he could pay off all his bills without filing for bankruptcy, but, except for his plane and camera, he was "busted."¹⁶ Dawson and Kennedy packed up and left San Francisco in search of other work.

Although he considered starting over again, going back to the privately owned ranches and smaller towns where the Company had enjoyed success, Chambers also realized that he needed to start making money right away. Before he could contemplate a next step for his aerial photography business, however, he received a call from Al

¹⁵ Ibid.

¹⁶ Ibid.

Warmington, then-treasurer of the Chevrolet Motor Company of California. Warmington asked Chambers to come and meet with him in Oakland, adding that he had a proposition he wanted the Great-War ace to consider. Undoubtedly feeling somewhat relieved by the apparently fortuitous introduction of this new opportunity; Chambers drove to Oakland.

In Oakland, Warmington explained that the elder Durant was back in business, this time contemplating starting his own automobile company. He wanted Chambers to represent him on the West Coast, selling stock in the new firm. Warmington pressed his case with vigor: Durant's company was going to go public and offer an opportunity for poor people to become rich. The California sales areas had already been taken but, Warmington explained, the entire state of Washington was open, and Durant wanted Chambers to create a sales force, selling his stock throughout that state.

Having no other prospects, Chambers accepted the job, and moved his family to Washington. For about a year, he did fairly well with Durant Motors. He made a commission from each sale and, because the stock was paying dividends for the first year, sales were good. This no doubt surprised him, as Durant had yet to produce a single automobile. Chambers saw that people were simply investing in an idea. At the same time, he learned about finance and the role of stock in supporting a publicly held corporation. These lessons served Chambers well later in his career, when he was seeking funds for his own businesses ventures.

Chambers' fortunes, however, changed dramatically when Durant rolled his first automobile off the assembly line. That model, called the Star was, was – in Chambers' words – “a clunker.”¹⁷ Soon Durant's stock stopped paying dividends and demand plummeted. Just before Durant's stock bottomed, however, Chambers received a job

¹⁷ Ibid., 68.

offer from his old service buddy. Rickenbacker Motors was in need of money and, like Durant Motors, had also decided to offer its stock to the public. Knowing his friend's penchant for sales, Rickenbacker persuaded his partners to give the entire West Coast – California, Oregon, and Washington – to Chambers. Chambers had built an effective sales staff while working for Durant and now took the best of these men with him as he moved back to California to set up a regional headquarters for the Rickenbacker stock. One of these men, Vic Chenea, would work with Chambers for several years before leaving to join Pan-American Airways as their Vice President in charge of traffic.¹⁸

Over the course of the next year, Chambers and his team sold close to two million dollars worth of stock in their West-Coast territory. It appeared to be a good investment; the company was paying dividends and the trade papers wrote flattering accounts of Rickenbacker's automotive designs with their innovative, four-wheel braking system. Despite the fact that he was doing well, however, Chambers longed to find an avenue back to flying. He had been disappointed when the Durants backed out on their proposed airline, and still believed that with the right venue and equipment, an airline could make an impressive profit in America. The problem was still a lack of suitable airframes. America was not yet building planes for commercial applications.

Rickenbacker had also noted that his country was trailing the European powers in developing transport aircraft. In a scathing editorial for *Aero Digest*, published in June of 1924, he blamed the government for the state of commercial aviation.¹⁹ In subsidizing manufacturers producing military designs, American companies were building the finest airplanes in the world: "Practically all world's records are held by American aviators

¹⁸ Chambers, *Reminiscences*, 68.

¹⁹ "Rickenbacker Speaks," *Aero Digest*, June, 1924, Vol. 4, No. 6, 362-364.

using American aeroplanes powered with American-built motors.”²⁰ Yet these sleek designs, built for speed and endurance, lacked capacity for cargo or passengers. Furthermore, without financial incentives, American airplane manufacturers had no reason to discontinue producing the government-subsidized designs, or to attempt building commercial designs. Rickenbacker reasoned that until the government withdrew from the industry entirely, forcing manufacturers to create a market for their products, America would continue to trail the Europeans. He and Chambers did not know it at the time, but the situation was about to change dramatically.

The first sign of change came in 1925, when Henry and Edsel Ford announced their intention to buy the Stout Metal Airplane Company and begin mass-producing that firm’s AT-2 airplane, (called the “Stout Air Pullman” in the company’s sales literature).²¹ The plane was a duraluminum monoplane with a corrugated aluminum skin, powered by a single Liberty engine, and capable of carrying a pilot and eight to ten passengers.²² Seven years after the end of the Great War, a new airframe would still be dependent on America’s wartime engine, but at least the industry was progressing.

After purchasing Stout’s company and making it a division within their own, the Fords set up a production facility designed to produce up to two planes per week. The prototype was named *Maiden Detroit*, a play on words to trumpet the fact that the plane was “made in Detroit.”²³

²⁰ Ibid., 363.

²¹ Chambers first got word of the Fords’ intentions to build the sturdy monoplanes and start their own air service in the April 26, 1925 issue of the *Los Angeles Examiner* (Frank Bogart, “First Ford Plane Presages Cross-U.S. Air Freight,” *Los Angeles Examiner*, April 26, 1925, Vol. XXII, No 136, 1). This issue obviously had special meaning for Chambers as he kept it in his cherished papers. His original copy is stored in the USAU archives. As he later recalled, “Mr. Ford announced his interest in aviation, and things started popping” (Chambers, *Reminiscences*, 68).

²² Bogart, 1.

²³ Henry A. Holden, *The Fabulous Ford Tri-Motors* (Tab Books, Blue Ridge, Pennsylvania, 1992), 28.

In addition to building the planes, the Fords began building a market for their air fleet. It was exactly the type of remedy that Rickenbacker had prescribed for America's aviation malaise: industry leaders creating planes and markets without government intervention. The Fords quickly initiated an airfreight service between Detroit and Chicago. On May 15th, they announced the formation of American Airway Limited, a three-million-dollar endeavor under the direction of Edsel Ford. This company was to expand the original freight route, eventually adding passengers, and connecting Chicago to Los Angeles and New York, as well as several major cities in the Midwest.²⁴

The second impetus for growth came a short time later, when the United States Postal Service announced that it was going to contract with civilian carriers to transport airmail. Chambers reasoned that airmail service would provide a steady source of income to help keep airlines solvent until customer traffic grew. Ford was building planes and the government was providing a market. This appeared to be the opportunity for which Chambers had hoped.

Within weeks, he learned that other airlines were beginning to form across the country. Not wanting to be left out, Chambers brought his Rickenbacker stock-sales staff together and explained his idea. He wanted to start an airline. He reasoned that he would have the best success in the South and, because he was familiar with Florida from his experience there as a real estate salesman, he immediately focused his attention there. The land boom and the corresponding growth in Florida's population and commercial sector would provide sufficient traffic to make his airline viable. Additionally, the flat terrain and ideal, year-round flying weather made Florida a seemingly superb choice. What he needed now was capital with which to start his business.

²⁴ Ibid.

A call to Rickenbacker gave him assurance that he had enough funds to get started, but before his airline could become fully operational, he would need a lot more. He needed money to buy planes, build airports, hire pilots and mechanics, and to pay himself and his staff until the airline began to turn a profit. He decided he would get that capital by selling stock. Although both the Rickenbacker and Durant automotive stock had sold well, Chambers felt uncomfortable approaching the general public with his scheme. He recalled his thoughts later:

I thought that selling stock was all right, but aviation was not for widows and orphans. I'd sold a lot of this [automobile] stock to widows and orphans and professional people, people who had no right to buy stock in a promotional deal of that kind. Of course it's been going on since, and still does. It was a good gamble, I suppose. But I decided that I had learned enough about the security business and setting up a deal that I could sell this stock, but I was going to sell it to people who could afford to lose money in airways.²⁵

With Rickenbacker and his top salesman, Vic Chenea, on board, Chambers was ready to begin making his pitch for investors. One of his first contacts was the manager of the Biltmore Hotel in Los Angeles, where he had an office for his Rickenbacker Automobile sales team. The two had become friends over the months that Chambers had worked out of the hotel. One evening as the manager listened intently to Chambers' plan for an airline, he was suddenly struck with an idea.

I'll tell you what I want you to do: I want you to see Bowman of the Bowman Biltmore Hotels. There's a Biltmore Hotel in New York. He has this chain of hotels – New York; Westchester; Atlanta; Havana, Cuba – there's to be a Biltmore in Havana – the Biltmore in Coral Gables, and this one. Your idea of running an airline down in Florida – I know that would be of interest to him.²⁶

With that, Chambers was ready to head east to start raising funds. Adopting the corporate name "Florida Airways," he went first to Detroit where he met with Bill Mayo, Edsel Ford, and Bill Stout, then head of the Stout Division of the Ford Motor Company.

²⁵ Ibid., 69.

²⁶ Ibid.

Chambers approached Ford with a deal to buy four of the Stout AT-2s for fifty-thousand dollars worth of shares in Florida Airways. Ford's representatives talked it over among themselves and agreed that if he could gather sufficient funds to operate a viable flight schedule in Florida, they would supply him with the four airplanes he wanted. Elated, Chambers left Detroit for the East Coast, eager to secure more investors.

In New York, he checked into the Roosevelt Hotel. The following day he went to see Bowman at the Biltmore Hotel in New York. During the course of their conversation, the two men reasoned that this airline, currently anticipated to connect Tampa, Jacksonville, and Miami, might quickly expand to connect Atlanta and even Havana. As the Los Angeles manager had predicted, Bowman was very interested:

You know, the way I've done this job is with other people's money, but I have some very influential people interested in the Biltmore Hotels, and I'd like to have you talk to some of them, because I know they have interests in Florida, and this whole thing of tying so many of our hotels together makes a lot of sense.²⁷

Bowman provided Chambers with a letter of introduction and set up an appointment for him to meet with Percy Rockefeller. Chambers met with Rockefeller at his office at 25 Broadway, and impressed the mogul with his ideas. Rockefeller signed on for twenty-five thousand dollars. The consummate salesman, Chambers decided to take advantage of his wealthy investor's close association with other business leaders. He asked,

Well, Mr. Rockefeller, this is obviously not anything for small people... Do you have any other people that you'd like to have me see? I think we should get a group that could afford to put more money in when necessary... This is very speculative.²⁸

Rockefeller said Charlie Stone, of Stone-Webster shared their vision for the future of aviation. He called Stone's office on 120 Broadway and set up an appointment for the fledgling airline executive to meet with Stone the following day.

²⁷ Ibid., 70.

²⁸ Ibid.

Stone was not immediately convinced. After listening carefully to Chambers' presentation, he said he would have to consult with Mr. Webster before making any firm commitments. He promised to call back the following morning.

The next morning Stone called to confirm that he and Webster were each willing to put up twenty-five-thousand dollars to match Rockefeller's pledge. Chambers confessed later, "[I] just couldn't believe that raising money could be that easy."²⁹ Before leaving New York, he discussed Florida Airways with a number of other prominent business leaders. Anne Morgan, Richard Hoyt of Hayden-Stone, and Gannett of Gannett Newspapers all signed on.³⁰ Chambers recalled that he, "had a 'who's who' as a list of stockholders," but he was quick to add, "there were no widows or orphans."³¹

After securing the money for his start-up costs, Chambers' next concern would be a steady income to cover his operational expenses. On July 5, 1925, in response to the February Kelly bill, the Postal Service advertised its first airmail routes for bid.³² Chambers noted that one of these routes, covering 393 air miles and connecting Miami,

²⁹ Ibid., 71

³⁰ First names unknown.

³¹ Ibid. Chambers added a list entitled "A Few of the Nationally Known Stockholders" to his promotional brochure to spur additional investors. In addition to those listed above, other investors included Fred Zeeder, Vice President of Chrysler Motors; E. LeRoy Pelletier, Henry Ford's personal secretary; Charles B. Bohn, President of Bohn Aluminum and Brass Corporation of Detroit; Harry Harper, President of the Motor Wheel Corporation, Lansing Michigan; Robert Stranahan, President of Champion Spark Plug Company, Toledo, Ohio; and Rollin H. White, President of the Cleveland Tractor Company in Ohio (from Chambers' sales brochure, circa 1926, copy from USAU archives. "Widows and orphans" from Reed Chambers, Memorandum to Messrs Oliver R. Beckwith, et. al., July 21, 1948, 2, USAU Archives. Hereafter this reference will be cited as "Chambers, Memo.")

³² The Kelly Bill, named after its sponsor, Representative Clyde Kelly of Pennsylvania, was first introduced in 1922 to allow the Postmaster General to contract with private carriers for airmail service, but the bill was defeated. Three years later, many attitudes had changed. Supported by Paul Henderson, a former Chicago businessman who had opposed airmail as impractical, but had switched his allegiance in the face of some early successes and now headed the airmail section of the Post Office, the Kelly bill – now called the Air Mail Act – passed in Congress and was signed into law by President Coolidge in February 1925. (Donald Dale Jackson, *Flying the Mail*, (Time-Life Books, Alexandria, Virginia, 1982), 81, 94.)

Tampa, and Jacksonville, was designated Contract Air Mail #10.³³ The route fit in well to Chambers' sales plan. He had already drawn up a brochure that showed those locations, as well as a proposed route through Key West, followed by an island-hopping trip through the Caribbean to reach Havana, Cuba. He immediately submitted a bid for the contract. Obviously confident that he would have no competition for the route, he bid the maximum: three-dollars-per-pound for the route. He then returned to Detroit to close the deal on his four Stout airplanes. At about the same time, he purchased a Curtiss Lark Cabin monoplace biplane from C.S. ("Casey") Jones.³⁴ This was the first American cabin aircraft to be designed and built exclusively for commercial purposes. It employed no war-surplus parts. The small plane boasted a 225-horsepower Wright J-4 radial engine and would serve the airline by delivering mail and cargo to those fields too small or muddy to handle the large AT-2s.

As he was proceeding with his airline, there were other developments in commercial aviation that affected Chambers directly. First, in fall, he learned that Harold Pitcairn had made a bid for the New York-to-Atlanta airmail contract.³⁵ By working closely with Pitcairn, Chambers reasoned that their two airlines could eventually advertise New York-

³³ William C. Lazarus, *Wings in the Sun, the Annals of Aviation in Florida* (Tyn Cobb's Florida Press, Orlando, Florida, 1951), 82.

³⁴ Jones had met Chambers during the war and the two remained friends for life. At the time of this purchase, Jones was an employee of the Curtiss-Wright Corporation. He started as a test pilot for Curtiss, was an executive for the company when Chambers bought the Lark, rose to President of the Flying Service, then to Vice President of the Corporation. In 1932, when Curtiss got out of the flying business and decided to devote their efforts entirely to manufacturing, Jones left Curtiss to start the Casey Jones School of Aeronautics – a flying school – outside of New York City (Casey Jones to David Beebe, New York, December 28, 1943, quoted in David Beebe, *Through Twenty-Five Years* – no publisher listed – 1944, 26.) *Through Twenty-Five Years, A Chronology of Aviation, Aviation Insurance, the USAIG*, was Beebe's effort to capture the origins of his insurance organization. As the sub-heading indicates, the work "includes items of a personal character and of interest primarily to the older members of the USAIG (United States Aviation Insurance Group) Staff." Only a limited number of these books were printed. Copies were sent to current and former employees, past and present members of the insurance group, some customers, and long-time friends. Because of its historical significance to USAU today, photocopies of the original text abound throughout the USAU headquarters.

³⁵ Chambers, *Reminiscences*, 71

to-Miami passenger service. No doubt he concluded this would be a very profitable route, so long as New Englanders still possessed the same level of interest in Florida that they had displayed when he was selling real estate there before the war.

Then, in December 1925, Chambers learned that Daniel Guggenheim had created the Guggenheim Foundation to promote civil aviation in the United States.³⁶ With an initial endowment of 2.5 million dollars, the Foundation supported efforts to designate aerial routes, construct airmarkers and airports, and implement a variety of other improvements to aid air commerce.³⁷

A third, unanticipated development was less welcome news. In late fall, Florida's legislature passed an act to regulate commercial aviation within the state.³⁸ As the federal government had not yet taken steps in this area, several states had adopted statutes of their own to ensure the safety of their citizenry. Unlike Connecticut and Pennsylvania, the two other states pioneering regulatory control over aviation, the Florida statute equated aviation to motor vehicles, instead of to nautical vessels. Later, in 1926, when the federal government adopted regulatory controls, they followed Florida's example. The statute that affected Chambers' airline was,

Chapter 11339, Laws of 1925: An Act to encourage the navigation of commercial aircraft in Florida; fix the license and inspection taxes; to define their heights and privileges and regulate the navigation, inspection and licensing thereof and for purposes incident to such navigation.³⁹

³⁶ Lazarus, *Wings in the Sun*, 86.

³⁷ Henderson, working with engineer Joseph V. Magee, had already employed a series of beacons and emergency fields for cross-country night flights as early as August 1923. Guggenheim's foundation would build on this original network to create new airports and bring new cities into the national air network (Jackson, *Flying the Mail*, 83).

³⁸ Lazarus, *Wings in the Sun*, 86.

³⁹ Quoted in Lazarus, 81. There was, during commercial aviation's infancy, a raging debate whether aviation law would pursue the course set by maritime law or automotive law as it developed in the United States. With this law, Florida followed a decidedly automotive course. The federal government, however, would follow maritime law when it began regulating aviation in 1926.

To enforce the law, the State appointed Mr. Hugh Mays of Tallahassee as its Aeronautical Inspector. He, along with the State Comptroller, was to inspect planes and facilities, and collect fees. The fees were high. An airplane inspection and license cost \$100.00 per year. An airport license was \$50.00, and a pilot license cost \$25.00. With five planes, four airports, and a half-dozen pilots, Chambers would pay at least a thousand dollars a year in fees and licensing costs before he could even begin operations.

By winter, Chambers and Rickenbacker had amassed some three or four hundred thousand dollars to bankroll their airline.⁴⁰ Everything appeared to be on track for the airline to begin operations the following year. Ford would deliver its four airplanes in late December, then all the members of Chambers' team would assemble in Florida to finalize deals for the airstrips so that they could begin operation in spring.

On November 11th, Chambers was again in New York City, partially on business, but also because of the annual Armistice Day celebration. These were well-attended affairs, created as much for the opportunity of wartime aviators to get together and reminisce, as for the excitement and frivolity of the events. As Ray Brooks recalled, "the aviation crowd was still young and rampant..., [and] the Armistice Day dinners were really of the kind that were sell-outs and boisterous, and also the kind the hotels didn't want us back for the next one."⁴¹

Billy Mitchell and Elliot White Springs were the featured speakers of the evening. During dinner, Chambers spied Ray Brooks at a table just behind him. Brooks was his friend and successor at Kelly Field, when he retired from the Air Service in July of 1920. They agreed to meet as soon as they could find a quiet moment.

⁴⁰ Brooks, 6.

⁴¹ Ibid., 7

As soon as they were out of the commotion, Chambers asked Brooks what he was doing. Brooks was in the publishing business. Chambers asked if he had any interest in getting back into aviation. Brooks was stunned. He wanted desperately to get back into flying. Chambers briefly explained the Florida Airways setup and asked if Brooks was interested in dropping everything to come down to Florida and be his assistant.

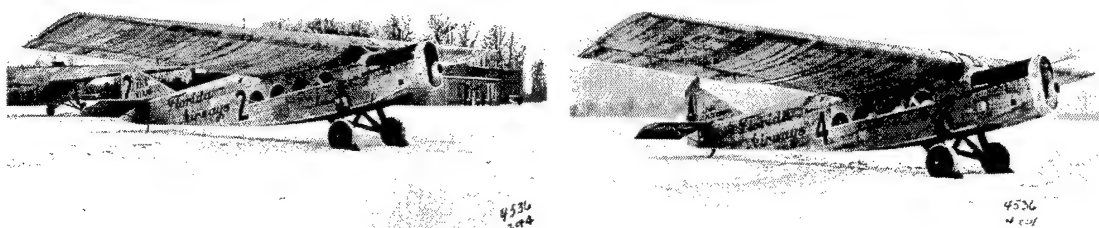
Overjoyed, Brooks accepted the offer on the spot. The next day he resigned from the publishing house where he worked. Chambers sent Brooks to New York to run a recently opened office there and to seek additional East Coast investors.

Brooks joined an experienced team of professionals that Chambers had assembled to make his airline a success.⁴² His Vice President in charge of Operations would be Major Wendell A. Robertson, who had accompanied David Putnam on his final flight and later became an ace himself, earning seven kills. Robertson was a West Point graduate, had served as head of training for the Air Service in Europe, and was an experienced pilot. John ("Jack") Harding was Vice President in charge of Maintenance. Like Robertson, Harding was also an experienced military pilot, however, he was best known for having been a crew member on the Air Service's Round-the-World flight of 1924. Undoubtedly Chambers hoped Harding's fame would help build investors' confidence in Florida Airways. The Secretary and Treasurer of the fledgling airline was Edward R. Hart, an experienced accountant, and Chambers' friend Vic Chenea served as traffic manager. With his staff and the financing lined up, Chambers was ready to pick up his airplanes.

Stout informed Chambers that the planes would be ready to pick up on December 28th. Chambers arranged for his pilots to arrive a few days before the actual transfer, so they could receive familiarization training in the new airframes. Then, leaving his wife

⁴² Key members of Chambers' staff from his 1926 *Florida Airways* sales brochure, USAU archives.

behind in California, he and several Florida Airways executives arrived at the Dearborne, Michigan plant to take possession of their new machines. There on a field lightly dusted in snow sat four of the bulky, metal-skinned craft. Stout had taken pains to have the Florida Airways logo painted boldly on the side of each fuselage and, following the tradition set by the prototype, "Maiden Detroit," each of these planes was named after a city. The name was painted on each plane's tail. Following Chambers' guidance, the planes were christened *Miss Tampa*, *Miss St. Petersburg*, *Miss Miami*, and *Miss Fort Myers*.



Figs. 37 and 38. Florida Airways' Miss Miami and Miss St. Petersburg⁴³

Although sturdy in design, the aircraft were not particularly fast, nor comfortable for pilots to fly.⁴⁴ Passengers could escape the elements in the sealed cabin, but the cockpit was open, making wintertime flying so far north particularly painful, physically exhausting, and therefore, somewhat dangerous.⁴⁵

[The plane had] a comfortable place to sit down in, but the doggone cockpit didn't have any cover; it was open. The leading edge of the wing was right over your head, and the

⁴³ USAU Archives.

⁴⁴ Specifications from an undated brochure entitled "Features of the Stout Air Pullman" attached to Florida Airways literature in USAU archives and from Bogart, *Los Angeles Examiner*, 1.

⁴⁵ Stout had received a great deal of criticism for his design from pilots who wanted the cockpit behind the front wing, near the tail, to enhance their chances of survival in a crash. He had reasoned, however, that since his plane was supposed to carry passengers, those passengers should be afforded the best protection, so he put the pilots up front. To improve visibility and reduce some of the strain from the wind, Stout installed a windshield made of celluloid, the only transparent plastic then available. The cockpit was, however, still open to the wind and elements (Holden, *The Fabulous Ford Tri-Motors*, 27-28).

worst of it was that the wind and the prop wash was just pouring right at you, off of the – bouncing off the wing down the back of your neck. I didn't care for that at all.⁴⁶

The planes were over forty-five-feet long, with a wingspan of just over fifty-eight feet. The six-hundred-square-foot single wing was over twelve feet long where it met the fuselage. Within that space were the fuel tanks capable of carrying one-hundred-forty gallons of fuel, or enough gas to power the single, four-hundred horsepower Liberty engine for four hours of flight. The planes had managed one-hundred-fifteen miles per hour in test flights, a respectable speed for that day.

On the morning of Monday, December 28th, Chambers and his staff joined Henry and Edsel Ford, William B. Stout, and key workers from the aircraft company for a short ceremony before taking possession of the aircraft. During the ceremony, the elder Ford commented,

These men deserve a great deal of commendation for the steps they have taken toward the advancement of commercial aviation. It is a splendid thing they are doing and I believe it marks a real turning point.⁴⁷

Immediately after the ceremony, William Robertson was to take off in his Curtiss Lark, to act as a pathfinder helping the bulky metal aircraft navigate.⁴⁸ From Dearborne, they were to head to Wilbur Wright Field in Fairfield, Ohio. The following day, the five planes were to proceed to Nashville, with a refueling stop in Louisville. On Tuesday, the group was to fly to Montgomery, Alabama. Wednesday, they were to proceed to Florida, stopping first at Tallahassee, and then proceeding to Miami. From Miami, the fleet would be dispersed to their individual home stations throughout Florida. For publicity, Chambers had scheduled a variety of arrival ceremonies at each of those stations, to

⁴⁶ Brooks, 9.

⁴⁷ "4 Planes Leave for Florida Service," *The Detroit Free Press*, Monday, December 28, 1925, from a collection of clippings found in USAU archives.

⁴⁸ Ibid.

herald the arrival of Florida's new age in transportation. These events drove a fairly tight schedule as the group prepared to depart on their trip south.

Unfortunately, they would not be able to meet their schedule. After leaving Dearborne, the AT-2s flew into a snowstorm and lost sight of one another.⁴⁹ While three of the transports made it to Dayton, the fourth, *Miss St. Petersberg*, became lost and landed in Gary, Indiana. This plane rejoined the group in Dayton the following day and they all headed on to Blackwood Field, in Nashville.

The following day, in front of a throng of spectators eager to see the planes as they resumed their journey south, pilot Lee Schoenhair lost control of *Miss Fort Myers* on his takeoff roll and veered into two of the other AT-2s, seriously damaging all three planes.

Chambers, who was not present at the scene, was concerned, but felt Ford would be eager to make the necessary repairs at minimum cost. Since Ford had sold the planes to Florida Airways for stock, Chambers reasoned, they had a vested interest in making sure the airline would be successful. They would repair the planes so they could get a return on their investment. He was right. By that evening, replacement parts were already on order and Ford-Stout was planning on sending a team of workers to Nashville to effect repairs.⁵⁰

Chambers was right that Ford-Stout would cover the repairs, but the firm could not compensate him for the lost time. The entire repair process took over a month. Although *Miss Fort Myers* was still undergoing repairs in early February, Chambers decided he

⁴⁹ "Aviators Lose Way in Storm," *The Detroit Free Press*, Tuesday, December 29, 1925, from a collection of clippings found in USAU archives.

⁵⁰ Ray Brooks recalled Chambers estimated repairs at about "four or five thousand dollars" at the time; however, in his 1960 interview, Chambers stated, "it cost about \$30,000.00 to repair the damage" (Ibid., 8, and Chambers, *Reminiscences*, 71). Since the planes were originally purchased for \$50,000 in shares, the \$30,000 repair figure does seem excessive, however, Chambers probably included incidental expenses in his 1960 estimate, including lost revenues. The accident caused considerable delays in his proposed operations schedule and forced him to postpone or cancel a number of publicity events.

could not wait any longer. He, his remaining three Ford-Stouts and the Curtiss Lark would leave Nashville on February 8th to finish the journey to Florida.

Along the way, they stopped at Maxwell Field, outside of Montgomery, Alabama, where *Miss St. Petersburg* was slightly damaged when her undercarriage struck a pile of dirt on the edge of the landing strip. Not wanting to waste any more time, Chambers ordered parts from the Ford-Stout crew working in Nashville and decided to proceed on their last leg into Florida the following day.

With *Miss Fort Myers* still undergoing repairs in Nashville and *Miss St. Petersburg* awaiting parts in Montgomery, Chambers probably had mixed emotions as he neared the end of his journey. He would reach Florida with only half his fleet, a full five weeks behind schedule. Furthermore, there were still airports to build, passengers and cargo clients to recruit, spare parts and maintenance bays to acquire, and countless other details to work out before he could rest assured his latest enterprise would succeed. He remained confident, however. There were still plenty of pilots from the Great War, anxious and ready to fly, and he had experienced very little difficulty convincing investors to join him in his endeavor. He had pilots, he had capital, and now that America was building planes suitable for commercial pursuits, he had machines.

The trip to Tallahassee was uneventful. Upon their arrival, Chambers and his party were treated to a reception hosted by the mayor and key political figures from the region. The welcoming delegation had been waiting for the airline executive and his planes for two days, apparently having received an erroneous flying schedule before the group left Nashville. Still, it was a splendid welcome and probably helped lighten the airline employees' moods.

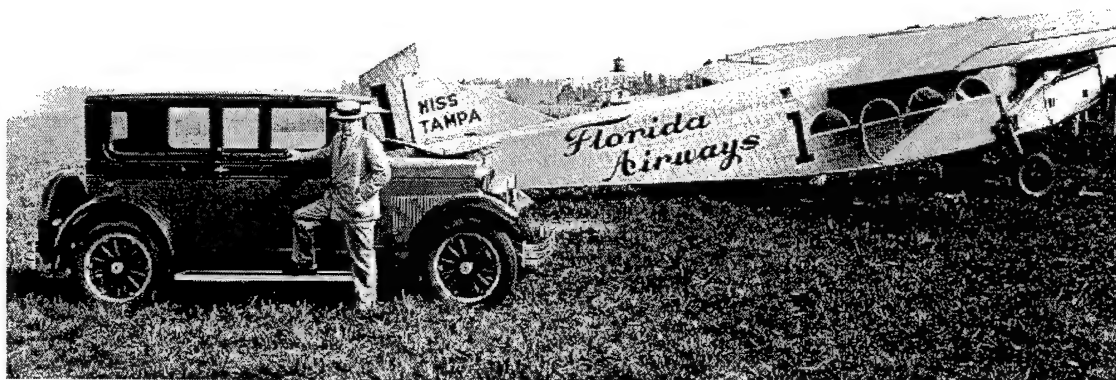


Fig. 39. Reed Chambers, President of Florida Airways, with the flagship of his fleet, Miss Tampa.⁵¹

It did not, however, conceal the fact that the field on which they had landed was almost inadequate for the heavy AT-2s. In correspondence from the city council, Chambers had been told the city of Tallahassee had a one-mile-square airfield under construction. Yet despite the fact that the Florida Airways fleet was five weeks late in arriving, it still had to land on the city's emergency field: a small, rough, temporary field outside of town. The field was short and rectangular in shape, so that operations could only be performed along a single axis. If the winds strayed too far from that single axis, the pilot of a fully loaded AT-2 would have to wait for better conditions before attempting a takeoff. Ray Brooks had the presence of mind to wonder if the destinations further south were also behind schedule in completing their fields for the airline's use.

The following morning, the group said its good-byes, and was driven back to the emergency field. The airline pilots were scheduled to generate some publicity by giving familiarization rides to local dignitaries and reporters before heading on to Tampa. Upon their arrival at the field, however, they found the winds were well off the center axis for the short runway. Furthermore, the air was very hot and, therefore, very thin, requiring a

⁵¹ From USAU archives.

greater distance before the AT-2s could become airborne. Although they waited for hours, the weather remained uncooperative. Finally, Chambers cabled Tampa, where the governor of Florida was awaiting their arrival, to explain they would be delayed an additional day.

The following morning, February 11th, the group headed back to the airfield. This time the weather was more cooperative. No doubt the bumpy field ending abruptly at the row of tall trees contributed to apprehension among the party but, fortunately, there were no accidents.

It appeared that the airfield situation was going to be a major problem for the fledgling airline. Early in his planning, Chambers had contacted each of the cities he intended to serve, outlining his requirements. In each case he received promises that suitable locations would be cleared and leveled for his use. Now, however, he found that the fields had not been completed. In some cases, he would find that the construction had not even begun. Brooks had his work cut out for him.

The short flight to Tampa went smoothly. On approaching their destination, however, the group was disheartened to see that the Tampa field was almost as unsatisfactory for their needs as the one they had just left in Tallahassee. It was largely covered in sand and tree stumps, with the one, usable approach complicated by the presence of two large trees. While still airborne, Chambers leaned over to Brooks and instructed him to get to work preparing a better field as quickly as possible.

Upon landing, Chambers and his party were treated as visiting dignitaries. Brooks recalled,

[W]e started to be entertained royally with banquets, and there were plenty of millionaire real-estate and night-club and other types of boom characters who gave us all kinds of

publicity and treated us as if we were bringing the state of Florida and the world something really grand in the line of the start of commercial aviation in that state.⁵²

In addition to meeting the governor and so many potential clients for his airline, Chambers received word that Florida Airways had been awarded the airmail contract at the \$3.00-per-pound bid.⁵³ He also was notified that *Miss St. Petersburg* had departed Maxwell Field and would catch up with the group in Tampa the following day.

The next morning, the airline's executives fanned out to begin promoting their service. They were elated to find that the land boom Chambers remembered from his Vero Beach experience was still underway. As the executives traveled to the various developers' offices, they found marimba bands entertaining prospective real-estate customers, and impressive wall displays promising buyers a small piece of paradise in sunny Florida. Most of the sales were based solely on the photographs, maps, and wall displays. Buyers bought lots sight-unseen. Brooks recalled, "It was just like a wildcat oil town on the boom."⁵⁴ At each function the executives attended, they were introduced to more real-estate developers, each reinforcing an entrepreneurial faith in a growing economy and endless progress.

To the consternation of the Florida Airways staff, however, the progress the developers touted did not seem to encompass airfields. While they were making great strides in spreading the word on their airline and the services it would offer, they were unable to begin backing their promises because of the poor landing facilities.

Brooks discovered to his dismay that the temporary field they had landed on at Tampa was in actuality owned by a real-estate developer who had a clause in his contract

⁵² Brooks, 12.

⁵³ Lazarus, *Wings in the Sun*, 82.

⁵⁴ Brooks, 13.

with the city that allowed him to recover the property for development with only twenty-four hours notice. The field at Fort Myers was even worse than the one in Tampa. Flying down to show off one of their AT-2s to Thomas Edison and his wife, then living in Fort Myers, Chambers and Brooks were shocked to find the field that they had been allotted was nothing more than a small, sandy clearing in the midst of a forest of tall pines. After meeting the Edisons, the two approached the flight back to Tampa with great trepidation.

[There] was a good deal of sand under the tires. It was a very short run, comparatively speaking. And on the takeoff from that field, my heart was literally in my mouth because it was a question of whether we would make it over the tall pine trees at the end of this relatively short area.⁵⁵

Chambers and his staff adopted a two-pronged approach to correct the airfield situation. The first was a positive approach. He, Brooks, Vic Chenea, and Jack Harding contacted reporters, community leaders, and civic clubs to sell them on the idea of flying. With demonstration flights and lectures on the benefits of air travel, the executives convinced many to write articles and spread the word, echoing their call for progress, but always championing Florida Airways. They also argued before the appropriate city counsels, that the “public ownership of the landing area bore the same relation to the airplane that city streets and public highways did to the automobile.”⁵⁶ They contended that privately owned airports would ultimately restrict air commerce much as toll roads had hindered ground transportation in the past – those days were over. The company’s second approach was negative. Brooks enlisted the aid of editorialists to decry the poor state of the airfield infrastructure in the state. With this dual approach, the airline

⁵⁵ *Ibid.*, 14.

⁵⁶ Lazarus, *Wings in the Sun*, 85.

executives could both push and pull politicians to support their business by improving the fields.

Sometimes even this approach failed. When that happened, it fell to Ray Brooks to innovate new solutions – to “play politics,” as he called it.⁵⁷ His most unusual political solution involved the poor field at Tampa. Unable to make any progress with the Mayor or City Council, Brooks made the acquaintance of Rollie Davis, a friend of a secretary who worked for the Council. Davis was in charge of finding work for labor gangs of Florida prison inmates. Brooks enlisted Davis’ help in improving the airstrip. Some days there would be as many as seventy-five inmates leveling ground, felling trees, and removing stumps on the small field.

At the Fort Myers field, Brooks had to investigate the cost of removing the pine trees surrounding the airfield.⁵⁸ He found that an acre of cut pine would bring in \$25.00, while the cost of clearing that same acre, stumps and all, was \$120.00 per acre. Eventually, under the weight of the campaign for public ownership and improvement, the City of Fort Myers, at great expense to the taxpayers, cut two long strips into the dense pine forest to serve as their original airport.⁵⁹

At Miami the situation was even worse. Brooks arrived at City Hall to explain that he needed to take a look at the city’s airfield. The cooperative city engineer, driving a brand-new Franklin automobile, carried Brooks beyond the city limits to Hialeah, and directly into a huge tract of exposed mulch and coral covered in thick brambles and palmetto bushes. Stopping in the center of this veritable jungle, the engineer stretched out his arm to encompass the entire expanse. This was it; Miami’s new airfield.

⁵⁷ *Ibid.*, 14.

⁵⁸ Brooks, 15.

⁵⁹ Lazarus, *Wings in the Sun*, 85.

In Jacksonville, Brooks' query was met with a trip to the prison farm just outside of town. This farm had been selected as the site for the new Jacksonville airport, but in the meantime the city relied on Paxon Field, a smaller, less suitable airstrip on the west side of town.⁶⁰ This was bad news, since Paxon was unfit for the AT-2s, and the prison-farm field would not be ready for a year or more.

Within weeks of their arrival, the constant pushing to get Florida busy building its airfields was starting to put a strain on the airline staff. The heat and humidity, the heady boom-town pace, and the tremendous inertia they had to overcome to get the four principle municipalities to start building their promised airfields contrived to wear down many on Chambers' staff. Several men from California complained that Florida lacked the hills and natural beauty of their home. They wanted to go home just as soon as they had made their fortunes. Similarly, Brooks was beginning to miss New England. He recalled, "My Yankee blood was a little too thick to stand that particular climate."⁶¹

To ease the public-relations burdens for his overworked staff, Chambers decided to hire a full-time publicity man, one familiar with both the area and marketing.⁶² He found H. B. Dennis working for a Tampa newspaper. Chambers lured him away with an increased salary and the responsibility of single-handedly running the airline's publicity department.

In addition to the emotional and physical toll on the employees, the operational inactivity was putting a burden upon the airlines' finances. By the end of March 1926, Chambers had twenty-three people on his payroll. He was conducting a limited number of flights with this three AT-2s (*Miss For Myers* had still not arrived from Nashville) and

⁶⁰ Lazarus, *Wings in the Sun*, 85.

⁶¹ Brooks, 20.

⁶² Ibid.

the Curtiss Lark, but these were mostly special cargo or familiarization flights. He was not making enough money from these operations even to cover his operating costs, let alone his overhead. In addition, the airline had purchased two Travelair airplanes, specifically to carry mail on the Jacksonville-to-Tampa run, but also to service Fort Myers until that field was completed.⁶³ It was not extravagance but necessity that motivated Chambers to buy these planes. His airmail contract required that he begin carrying mail by April 1st, and there was no way to land the AT-2s safely at these northern fields.



Fig 40. One of Florida Airways' Travelairs being cranked up for a mail run.⁶⁴

The Travelair was a light, biplace biplane, capable of operating from those small, uneven airfields. Chambers reasoned he could book paying passengers into the back seat. Despite his initiatives, the salaries, the cost of the new planes, and the continuing costs associated with pushing the city governments to make progress on their airfields

⁶³ Chambers, *Reminiscences*, 71. In his *Reminiscences*, Chambers claims to have purchased three Travelairs. His is contradicted by Brooks' account, which indicates Chambers purchased one before and one after mail service began. The second was purchased through the Dan Sayers Company's Jacksonville representative, Bill Alexander (Brooks, 20). Brooks' recollection seems more reliable, given the photographic evidence available. Each of Chambers' AT-2s was numbered. *Miss Tampa*, his flagship, was number 1, *Miss Miami* was number 2, the ill-fated *Miss Fort Myers*, was number 3, and *Miss St. Petersburg* was number 4. The company's original Curtiss Lark, later designated *Miss Atlanta*, was number 5. The two Travelairs were numbers 6 and 7. A Stinson "Detroit," purchased later, was painted with the number 8.

⁶⁴ Holden, *The Fabulous Ford Tri-Motors*, 28.

combined to eat away at his corporation's reserve capital. Without a major increase in revenues, Chambers would again have to secure additional investment. Adding to the strain he was under, he now had to deliver on his contract to carry the mail, regardless of the condition of his fields.

Under Chambers' contract, Florida Airways was entitled to keep eight percent of the airmail stamp revenue, not to exceed three dollars per pound, per mile.⁶⁵ Given a strong public response, he anticipated making enough to cover his operating costs. To bolster public support for airmail, the airline had printed about twenty thousand airmail envelopes that they distributed within the business communities of the five cities supported by their route.⁶⁶ They also dropped leaflets over these cities, as well as nearby towns. In addition to these direct measures to stir business, Dennis continued to keep Florida Airways and the new airmail service in the public eye with the cooperation of local newspaper reporters and editors. Articles appeared in papers all over the state extolling the safety and efficiency of the new airmail service.

Despite his optimism over the mail income, the poor fields remained a major concern for Chambers. A single accident could substantially offset his company's meager mail revenues. He needed to find a way to minimize his risks. One way to do this was to reduce flights; another was to eliminate destinations.

Although his route was originally supposed to include Atlanta, the fact that Pitcairn was not yet ready to continue his route north of Atlanta provided Chambers a much-needed reprieve. The Postal Service understood that without a connecting airline, the airmail would have to complete the remainder of its north-bound run on another mode of

⁶⁵ John P. Ingle, Jr., *Aviation's Earliest Years in Jacksonville, 1878-1935* (Jacksonville Historical Society, Jacksonville, Florida, 1977), 20.

⁶⁶ Brooks, 20.

transportation. Because of this, the Postmaster did not force Florida Airways to begin service to Atlanta immediately, but allowed for a delay until August.

Early on the morning of April 1st, a group of dignitaries and two thousand spectators arrived at Paxon Field to witness Florida's first airmail flight.⁶⁷ Shortly before the scheduled flight time of ten o'clock, Jacksonville's Assistant Postmaster, Y. O. Brown, drove onto the field in a mail van, carrying a bag of airmail headed for points south. . Striding across the field, he climbed into the passenger cockpit of the little Travelair with local dignitaries and the crowd looking on. Florida Airways pilot R. T. Freng held Brown's mailbag as the postmaster strapped himself in, then, placing the bag on his lap, he lifted his cap and waved to the crowd. Freng climbed into his cockpit, started the motor, and taxied for the takeoff, while Brown continued to wave frantically to the cheering crowd. With a lurch, the plane accelerated down the bumpy field and vaulted into the sky. Freng was to fly to Tampa, where mail bound for Miami and Fort Myers would be transferred onto two other Florida Airways planes, to continue its trip south. Two-and-a-half hours after Freng's departure, Florida Airways pilot Leonard Flo, flying the Curtiss Lark, arrived from Tampa to deliver the north-bound airmail he had collected that morning.

The first day of airmail appeared to have gone well for the airline. On April 2nd, Jacksonville Postmaster Ross announced that approximately 18,000 airmail letters had been sent out of Jacksonville that first day, with approximately the same number arriving from the cities in the south. This volume, however, was not representative. Chambers understood that for many, the airmail stamp was nothing more than a souvenir. That day

⁶⁷ Ingle, 23-25.

the Postal Service hand-canceled airmail stamps with the words "First Flight," making them valuable collectors' items for philatelists and aviation buffs.

Less than two months after Florida Airways' inaugural mail flight, on May 20th, 1926, Congress passed the Air Commerce Act of 1926.⁶⁸ The Act served as the "legislative cornerstone for the development of commercial aviation in America" and, although somewhat belatedly, helped to correct the advantages European airlines had garnered through subsidies from their governments.⁶⁹ Specifically, the Act created the Federal Bureau of Aeronautics, within the Department of Commerce, which had far-reaching powers to regulate commercial aviation in America. The Bureau was empowered to license planes and pilots, regulate routes and traffic patterns, investigate mishaps, and oversee the design and construction of new aircraft engines and airplanes, to ensure their safety. The Act was also intended to show the American people that the federal government was working to make flying safer. Unfortunately, it had little impact on a public that had developed its skeptical views on flying safety from horrific accounts of air accidents during the government mail experiment of the early 1920s and from Billy Mitchell's raging indictment of military aviation that had so recently dominated the headlines.

As Chambers had anticipated, airmail business began to taper off after the first few days of operations. Still, he wanted to perfect his routes before opening his airline for

⁶⁸ In 1926, Herbert Hoover, then Secretary of Commerce, noted that commercial aviation was growing, largely as a result of the Kelly Act. He asked the Morrow Board to conduct a study of commercial aviation, much as it had done for military aviation following Billy Mitchell's famous trial. The Board was named after Dwight Morrow, a banking partner with J. P. Morgan (Josephy, Alvin M., Jr., editor. *The American Heritage History of Flight* [American Heritage Publishing Company, Incorporated, New York, 1962], 203).

⁶⁹ Quoted in Josephy, *Flight*, 203.

passenger service. He set a date of June 1st to inaugurate passenger service, and then set about the business of marketing the idea of air travel to the people of Florida.

The Ford-Stout AT-2s offered comfortable accommodations for their day.

Chambers' planes were equipped to hold up to eight passengers, sitting in wicker seats within the enclosed cabin. Each passenger could watch from one of the semicircular windows as the plane streaked along at close to 120 miles per hour. Flying on the old Air Pullmans, however, was a far cry from what passengers have come to expect from air travel today. The cabins were neither pressurized nor soundproofed nor air-conditioned, so that passengers baked in the hot, metal, boxy fuselages. If a passenger wanted fresh air, he could open a window, but at cruising speed, the winds could create havoc with personal belongings and clothing.⁷⁰

If the AT-2s were bad, flying aboard the Travelairs was worse. This was open-cockpit flying of the sort the former military pilots had come to know during the war. It was not for the faint of heart. Perhaps for emotional support, but more likely for increased sales, Chambers would allow two passengers to crowd into the passenger seat of the small biplanes whenever possible.

While Chambers fully understood that the biplanes were barely suitable for passenger service, he was also hamstrung by the fact that the AT-2s could not yet reach Jacksonville, because of the poor quality of the runway there. Instead, the big Ford-Stout planes flew a route between Miami and Tampa that was eventually expanded to include Fort Myers when that airfield was completed.

⁷⁰ The half-moon-shaped windows swung on a central pivot ("Features of the Stout Air Pullman", USAU archives, 2)

In preparation for his air-passenger service, Florida Airways opened offices – or rented desk space within existing offices – at each of the four cities he serviced. Brooks sold tickets from a desk in the main Jacksonville Post Office, though tickets could also be purchased at the Florida Airlines office at Paxon Field. There were similar arrangements in each of the three other Florida cities. A one-way fare from Jacksonville to Miami at that time cost \$65.00, a sizable sum for the day.⁷¹

On June 1st, Florida Airways picked up its first, official paying passenger when the Postmaster's Secretary, Floyd Brooker, booked round-trip passage to Tampa on one of the two biplanes. He returned with an ecstatic endorsement for air travel, relating how he had been enthralled by the orange groves, lakes, and trees he had seen as they had flown at low altitudes to and from Tampa.

As early as May, Chambers had started receiving pressure from the business communities of Florida and Atlanta to commence operations on the Tallahassee-to-Atlanta leg of his airmail contract.⁷² He was loath to begin, however, for a variety of reasons. Most importantly, profits were not yet covering expenses in his Florida operations. That alone made it a difficult time to consider expansion. Many of his key employees doubted that Florida Airways would ever make the profits they had originally envisioned. Discouraged, both William Robertson and Ray Brooks left the company in June.⁷³

⁷¹ Ingle, 25. Brooks recalled that a good lunch at that time cost eight-five cents (Brooks, 13). This means the ticket cost roughly seventy-six times as much as "a good lunch." If a "good lunch" cost four to six dollars today, then a corresponding ticket today would cost between \$304.00 and \$456.00, or about three to eight times what a similar ticket would cost a passenger today (\$65-150).

⁷² Brooks, 21.

⁷³ Ibid., 22.

There were more than mere financial concerns affecting the airline's expansion to the north. As of mid-summer, there was as yet no suitable airfield for his operation in Atlanta, nor had he begun the publicity buildup he felt would be necessary to make the run profitable. There was also the problem of airplanes. Because of the poor quality of Jacksonville's Paxon Field, the AT-2s were still restricted to the three cities being served in the south; Tampa, Fort Myers, and Miami. The airline's lone Curtiss Lark and two Travelairs could not handle both the Tampa-to-Jacksonville and Jacksonville-to-Atlanta routes. Chambers needed at least two northbound and two southbound planes to cover the routes adequately. Consequently, he found he needed another light aircraft, capable of negotiating Paxon Field, but there was not enough money in his coffers to buy one. Still, he was obligated to the Postal Service to begin supporting the route in August. So, confident that he would find a solution, he began making inroads to build that market over the summer.

In order to get the money to keep his company solvent, and to expand his operations into Georgia, Chambers decided that he would have to secure additional investments. He hired John Fay to handle local financial arrangements. Fay visited important businessmen along the Florida Airways routes, encouraging them to buy stock in the company, which he sold in one-thousand-dollar blocks. This new income provided some relief from the company's financial crisis, but it was a temporary solution and did not generate nearly enough revenue to cover the expansion into Atlanta.

Chambers realized he would once again have to turn to his investors in New England to secure the additional funds he needed. In July 1926, he returned to New York.⁷⁴ He first visited Rockefeller, who bought more stock, then went to see two members of

⁷⁴ Ibid.

Florida Airways' Board of Directors: George Mixter, of Stone-Webster, who served on the Board, representing both Rockefeller's and Stone-Webster's interests in the airline, and Dick Hoyt, who represented Hayden Stone and a few other investors.⁷⁵ Chambers explained why he needed the additional money. Hoyt and Mixter were sympathetic to the airline executive's plight and committed themselves and their clients to buying additional stock. Armed with sufficient capital to continue operations and open the route to Atlanta, Chambers returned to Florida.

In August, however, he decided his airline still was not ready to begin the Atlanta run. Pitcairn had yet to open his lines to the north and there was still no suitable landing site near the city. That changed, however, when Rickenbacker got personally involved. Rickenbacker, still a major financial investor in Florida Airways, brokered a deal with a close contact of his, William B. Hartsfield, to secure a landing field for Florida Airways.⁷⁶ Hartsfield, an assistant city attorney, admired Rickenbacker and assisted him in getting permission to use the infield of the Atlanta Speedway as an airport. It was an excellent location, as it was smooth and level, with plenty of open space in all directions in case of mishaps.

With a suitable field for operations, Chambers had no reason to delay further. Even without Pitcairn's mail routes north, expansion into Atlanta might generate sufficient revenues from passenger and airmail service to more than offset the additional operating costs associated with servicing the new destination. There was still one problem, however, that of a new airplane, capable of negotiating Paxon Field.

⁷⁵ Details of the meeting from Chambers, *Reminiscences*, 73-74.

⁷⁶ Rickenbacker, *Rickenbacker*, 176.

To meet his requirement, Chambers took a large portion of the investment money he had raised in New York to purchase a Stinson SB-1, "Detroit" cabin plane. The Stinson boasted a 225-horsepower Wright Whirlwind engine, brakes, and a cabin that enclosed both the pilot and his three passengers, offering protection from the wind and elements. Behind the passengers was a small compartment for mail or other cargo.⁷⁷

On September 15th, over four months after his originally agreed upon start date, and six weeks after his postponement deadline, Florida Airways finally began his airmail and passenger service to Atlanta.⁷⁸ That morning, pilot Ben Eieson, flying the Curtiss Lark, left Atlanta's Candler Field at seven o'clock with one hundred-thirteen pounds of mail – about ten thousand letters – and a single passenger, Atlanta Postmaster E. K. Large. They encountered strong headwinds and poor visibility as they headed south, forcing Eieson to fly low, only three hundred feet off the ground. Although the poor weather accompanied the pair all the way to Tallahassee, they managed to reach Paxon Field safely, a few hours later.

Despite Chambers' hopes, the Atlanta run did not contribute significantly to his airline's revenues.⁷⁹ Because Pitcairn's line had not started on time, Atlanta was the northern terminus for his airmail. From Atlanta, letters headed north would be turned over to rail lines to complete their journey. Similarly, Florida Airways' passengers could book only partial passage to New England destinations, complicating their travel

⁷⁷ Chambers claimed to have purchased the "Detroit" directly from Eddie Stinson, more as a personal favor than because he actually needed the plane (*Reminiscences*, 72). This was the same Eddie Stinson with whom Chambers had flown his first familiarization flight at Fort Sam Houston in the fall of 1916. He also claimed that he was one of Stinson's original stockholders, and to have "made a lot of money out of that," though again he cited personal loyalty as his motivation for investing, and not a desire for profit. He explained that he never thought about getting any of his investment money back, he "was just helping Eddie."

⁷⁸ Account from Ingle, 25.

⁷⁹ Discussions on dead ends in Chambers' routes from Ingle, 28.

arrangements and making the less complex, less expensive rail option more attractive. Even though staff members and pilots sometimes rode the rail line from Atlanta to Jacksonville, trying to cajole passengers into flying with the airline to Tampa or Miami, business remained poor.⁸⁰

Chambers experienced similar difficulties at the other end of his route, where Miami served as a terminus for all his south-bound mail and passengers. Here airmail and passengers headed for the Caribbean or South America were transferred to steamships, resulting in the ultimate loss of any time saved by using the air service and again complicating itineraries for passengers.

Florida Airways' revenues continued to decline. Fay quickly exhausted local support for his thousand-dollar-stock packages, and had to resort to selling individual shares for \$125.00. The company next tried to increase its revenues with an aggressive campaign to sell \$500.00 books of airmail stamps, reasoning that with the stamps in their possession, clients would feel bound to use their service, but this too was poorly received.⁸¹

Florida Airlines' passenger service never delivered the revenues Chambers had envisioned. As Rickenbacker explained, "the public was not ready" for air travel.⁸² The Stinson "Detroiter" could carry only three passengers on its two daily Jacksonville-to-Atlanta, round-trip flights, however, its seats were seldom full. Even though the airline continued to give out free passes to prominent citizens and reporters, in order to stimulate interest and faith in air travel, the public at large remained unconvinced. In his book on early aviation in Florida, John Ingle argued that,

⁸⁰ Don Bedwell, "At Death of Pioneer Flier, Thoughts Turn to Florida Airways" (*The Miami Herald*, Sun, June 2, 1968). 10-C. Bedwell's article paid tribute to Jack Harding, who had died days before, and reviewed the history of the airline.

⁸¹ Ibid.

⁸² Ibid.

The impression lingered in the minds of most people that planes were meant for use as weapons by the military services, or for tools of daredevil stunt pilots. Compared to rail or bus travel, airplanes were far more dangerous. As couriers of commerce and family travel the time of the airplane had simply not arrived.⁸³



Fig. 41. Paying passengers who changed their minds were encouraged to fly.⁸⁴

Because of the dearth of passengers, airmail became increasingly vital to the Florida Airways' continued operation, yet it also became a hindrance to the company's schedules.⁸⁵ Flights were delayed because of variations in the postal paperwork at each of the supported cities. These variations complicated mail pickup and delivery, resulting in the mailbags arriving late to the airfields. Delaying matters further, early in the operation, several postmasters insisted on counting airmail letters individually. To maximize the airline's attractiveness to Florida businessmen, Chambers had to ensure that his planes took off on time, preferably first thing in the morning, yet to fulfill his mail contract, he had to alter his flight schedules frequently to compensate for mail delays.

Eventually the paperwork became more standardized and Chambers' personnel – the clerks responsible for picking up and delivering mail – became more adept at completing the paperwork. Airlines personnel were also successful in getting the Postal Service to

⁸³ Ingle, 28.

⁸⁴ Bedwell, 10-C. The picture was not credited in the article, however, it was most likely taken as a publicity shot while the airline was in operation. The caption below the 1968 printing read: "Florida Airways Wanted Everyone to Fly Too ... but passengers sometimes balked back in 1926."

⁸⁵ Brooks 20-21.

agree not to count letters individually, but to weigh bags of letters and compute payments based on the weight of mail carried. This, however, led to some creative deception on the part of airline employees.

In order to maximize the company's revenues, an inventive employee came up with the idea of soaking a blotter in water, doubling its weight, then sending it via airmail to another Florida Airways clerk at another office.⁸⁶ The receiving clerk would unwrap the blotter, soak it again, and send it back. Since the stamps cost less than the airline made from carrying the blotters, the deception resulted in a comfortable profit for the airline. Soon the practice expanded so that the airline's clerks were doing "a rushing business sending one another wet blotters."⁸⁷ Rickenbacker explained that often this was the only way the airline could build up a pound of mail.

The practice soon got more complex, however, as the various clerks began sending each other bricks. The bricks were each carefully wrapped and addressed, then affixed with the proper postage. Even given the price of stamps, the airline was making 100% profit on every brick carried. The scheme was going well until one of the conspirators was absent from work one day. His replacement, aware that bricks needed to be shipped, but ignorant of the exact procedures, merely fastened an address and some postage to a brick and sent it to the post office. The Postal Inspector spotted it and began an investigation, ending the practice immediately.⁸⁸

⁸⁶ This was called "The Airmail Augmentation Program." Both this title and description of the incidents are from Rickenbacker, *Rickenbacker*, 176. No exact time frame for the "augmentation program" is given in Rickenbacker's account, however, it is most likely that it began sometime after passenger services commenced and lasted a month or two.

⁸⁷ Brooks, 20-21.

⁸⁸ The fact that Rickenbacker knew of this when he wrote his autobiography, published in 1967, indicates that Chambers probably knew about it also. When they found out about it or whether they ever sanctioned the practice is unknown. This author could find no evidence to indicate that the pair was in on the

The fact that customers had to pay a higher price for airmail than for regular service was not the only reason the company's airmail volume remained so low. A more important consideration was the fact that his service appeared to be slower than the ground-transport method. One authority stated:

By putting 20 cents in airmail stamps on your envelope in Miami, having it flown to Atlanta and then relayed north by train, you had a positive guarantee it would arrive in New York 12 hours later than if you had sent it by ordinary mail in the first place.⁸⁹

Each morning at seven o'clock, Florida Airways launched its morning plane from Miami, chasing a mail train that had left some eight hours earlier. Because of connecting delays, an airmail letter reached Atlanta approximately forty-five minutes later than if it had been dispatched on the mail train. Then, because of handling delays and the more streamlined train schedules, a letter proceeding to New York would have to wait for a subsequent northbound train to complete its trip. Certainly airmail service was faster among the cities directly supported, but because the distances were not that great, the time saved seldom amounted to even a full day. It did not take long for customers in Florida to realize that without a nationwide grid to keep their mail moving, airmail service was nothing more than an interesting novelty.

A few days after its inaugural flight to Atlanta, Florida Airways suffered one of its greatest calamities to date. Because of rising tides and ominous clouds off the Miami coast, news had begun to spread of a hurricane out in the Atlantic. Fearing for his uninsured aircraft, Chambers called the Weather Bureau and was assured over the phone that the hurricane would not make landfall, that it was being deflected into the North Atlantic. Reassured, he decided not to move the AT-2s stationed at Miami.

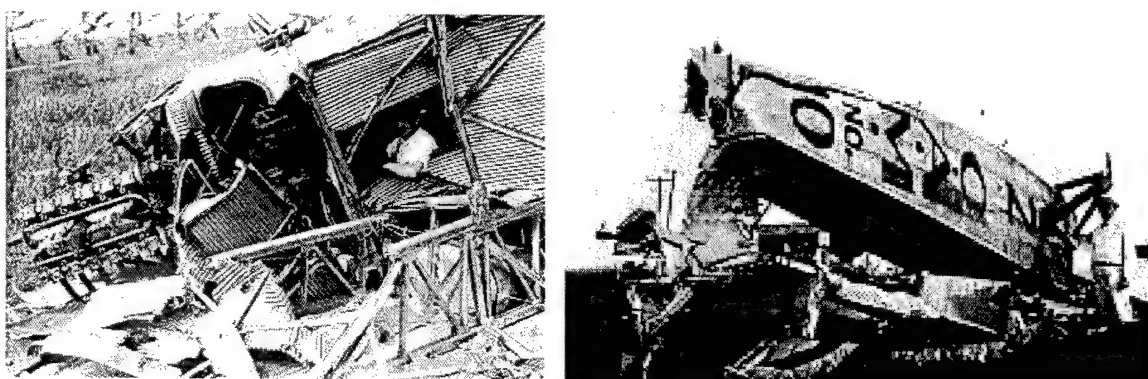
deception as it was occurring, however, given their personalities and penchant for pranks, it is not inconceivable that they were.

⁸⁹ William Van Dusen, an expert on the history of Eastern Airlines, quoted in Bedwell, C-10

On September 18th, contrary to the meteorologists' predictions, the hurricane struck Miami with a vengeance. Although the airline's two Stouts were staked to the ground at the Miami airport, the rigging was little use against the fierce winds. Both planes were pulled off the ground and hurled far from their anchorages. Chambers recalled:

We had two airplanes there, and the hurricane hit, and made alligator garages out of both of them. They're still in the Everglades, so far as I know. It completely wrecked them.⁹⁰

In a single day, Florida Airlines had lost half its AT-2 fleet and, because Chambers had been unable to obtain insurance, a considerable capital investment.



Figs. 42 and 43. Two of Florida Airways' Ford-Stout AT-2s were destroyed by the September 18, 1926 hurricane.⁹¹

In the aftermath of the hurricane, Chambers put the remainder of his fleet to work to aid the stricken region.⁹² Taking off from nearby areas that had not been damaged in the storm, as well as their fields on the opposite side of the state, Florida Airways' planes brought doctors, nurses, medical supplies and food into the devastated areas. One plane even carried a mailbag filled with money – one million dollars in cash to relieve a bank threatened by a panic in the wake of the storm.⁹³

⁹⁰ Chambers, *Reminiscences*, 71-72.

⁹¹ USAU archives.

⁹² Ingle, 28-29.

⁹³ Bedwell, 10-C.

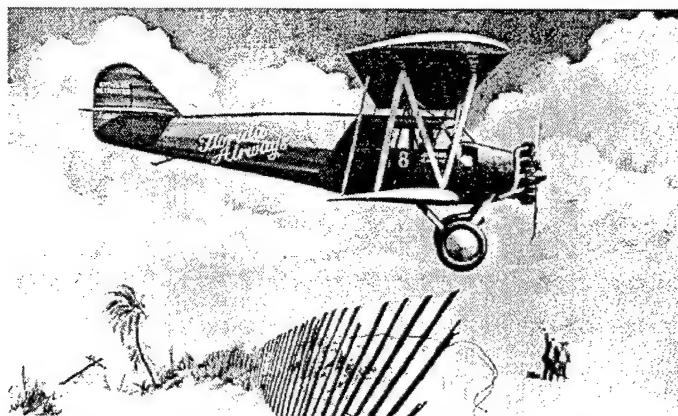


Fig. 44. Artist's rendering of Florida Airways' Stinson "Detrouiter," delivering medical supplies to South Florida after the September 1926 Hurricane.⁹⁴

These relief flights were much more than a mere publicity stunt or show of civic responsibility; because of the damage to infrastructure along the southern Atlantic coast, aircraft were one of the few transportation systems still operable in the area.⁹⁵

Despite the loss of two aircraft to the storm, Florida Airways continued to fly passengers and airmail for the remainder of 1926, but business was bad. Most significantly, the land boom was ending. Brooks noted the decline before he departed:

The actual boom, which had been going like a great big group of cannonade fireworks all of the sudden ceased and desisted. We just happened to pick the wrong time to be in the business of commercial aviation in Florida.⁹⁶

Although land sales had already diminished considerably during the previous twelve months, the hurricane served to stall the land-development industry further.

Consequently, there was a reduced demand for transportation into and within the region. Even without the cost of replacing his lost aircraft, Chambers saw there was not enough business to make an airline profitable.

⁹⁴ Ingle, 29. Artist's name unknown.

⁹⁵ Chambers' were not the only planes to fly in supplies. Lurie Yonge, a local pilot, was the first to airlift relief into the stricken area. His was one of the first "mercy flights" recorded in aviation history (Lazarus, *Wings in the Sun*, 87).

⁹⁶ Brooks, 23.

In December, Chambers approached the Postal Service, asking to be let out of his contract. Citing Pitcairn's failure to start up his east-coast route, which was supposed to connect with Florida Airways in Atlanta, he asked for a temporary delay in his airmail operation, for a year to eighteen months. That would give Pitcairn more time to get started and, Chambers hoped, increase the volume of mail and passengers coming from New England. The Postal Service canceled Florida Airways' mail contract effective midnight, December 31st.

In order to cover his payroll and maintain his corporate identity, Chambers canceled his scheduled flights, and used the remainder of his fleet to shuttle passengers, fly charter flights, and handle express deliveries whenever possible. This was only a temporary situation, he explained to his employees and investors, one that would improve when he secured the rights to fly into the Caribbean.

Chambers put a great deal of faith in the new route to Cuba. It would, he reasoned, be the site of the next major economic boom. Tourists and wealthy fruit growers would provide passengers, while the geography and increased business activity would provide ample clients for his airmail service. By having sole possession of the air route, Chambers concluded he would be in an excellent position to capitalize on this newly expanded market. Through correspondence and trips to New York, he was able once again to convince his investors and creditors to give a little more time and support for this latest endeavor.

Chambers' immediate concern was to open a route from Miami to Havana through the islands of the Caribbean. This accomplished, he then hoped to expand that route into

a huge circle, flying up the Central American coastline to service Venezuela and the Yucatan, and then to return again to Miami.⁹⁷ It was an ambitious undertaking.

Chambers began a series of trips, via steamboat, to and from the Cuban capital, trying to negotiate the new route with the Cuban government and its Postal Service, as well as with the American Postal Service and State Department. Returning to Tampa in the spring of 1927, he was shocked to learn that one of his pilots, Mike Brady, had crashed in the Curtiss Lark, fatally injuring himself and killing his two passengers.⁹⁸ This left Chambers with two AT-2s, the Stinson, and two Travelairs, too few aircraft to resume mail operations in Florida, should Pitcairn open the route from Atlanta. Soon, however, even these few aircraft were taken from him.

When survivors of the unfortunate passengers sued the airline, and were awarded a settlement of \$80,000, Chambers and his backers decided it was time for Florida Airways to declare bankruptcy.⁹⁹ As part of that settlement, the airline's remaining equipment was sold. Chambers was left in Florida with a few employees, his corporate structure, and his dream of opening Central America to aviation. Without planes, and lacking the capital necessary to open new fields along his Caribbean route, he knew that he would again have to turn to his investors for help. Undaunted, he began negotiations to secure the new route early in 1927.

⁹⁷ Reed Chambers to Richard Anderson and Albert Smith, New York, May 12, 1960, page 2. This letter, hereafter cited as "Chambers to Anderson," and on file in the USAU archives, was Chambers' attempt to document the founding of the USAU. This author found his 10-page, single-spaced letter an invaluable reference for recreating the earliest days of the USAU, as well as the final days of Florida Airways.

⁹⁸ Brady had picked up a couple in Tampa to fly them to Miami, but had become lost in the fog and crashed into some high-tension wires. His passengers died instantly, and he later succumbed to severe wounds and burns over much of his body. (Details of this accident appear in an undated ten-page account of the founding of USAU that was attached to a letter from Gilbert M. White to Mr. John V. Brennan, then-President of USAU, dated February 27, 1989, and filed in the USAU archives. Although undated, the text of this attachment makes it clear that Chambers was the author, and that he composed it sometime in 1967. Brennan responded to White's request by mailing him Chambers' undated, ten-page account on March 7, 1989. Hereafter, this reference will be cited as "Brennan to White.")

⁹⁹ Chambers to Anderson, 2.

From the beginning of its mail operations on April 1st 1926, until it discontinued its scheduled flights on December 31st of the same year, Florida Airways had amassed an impressive record of achievements. The airline could boast the first combined airmail-passenger service in the country, carrying a total of 939 passengers and 13,200 pounds of mail in its nine-month run. It had also launched the first airfleet-relief operation in history.¹⁰⁰ The airline flew ninety percent of its scheduled flights and, prior to discontinuing normal service, suffered no fatalities, despite twelve forced landings (eight due to mechanical problems and four as the result of bad weather).¹⁰¹ Chambers and his pioneering airline had put forth a valiant effort, but had failed to realize that they were somewhat ahead of their time.

Chambers had started Florida Airways confident that he had the ingredients needed to make commercial aviation a success: well-trained pilots, suitable airplanes, and sufficient capital. With these, he reasoned, he would be able to entice customers to take advantage of the services he offered. He was, however, wrong on two key points. First, without insurance, he could not count on capital. He could not reasonably expect his investors – even those wealthy entrepreneurs who could afford greater risks – to keep supporting him without some assurance that they were insured against catastrophes in a manner similar to the protection they enjoyed in other transportation investments. Ships, automobiles, and trains could be insured; why not aircraft? At the time that he started his airline, he failed to grasp the enormity of the risk he faced or he might have been more aggressive in seeking coverage for his planes. As he recalled years later: “Frankly, my

¹⁰⁰ Bedwell, 10-C and Ingle.

¹⁰¹ Ingle, 29.

entire concept of and experience in insurance at that point consisted of a \$10,000.00 G. I. Life policy.”¹⁰²

Secondly, Chambers failed to comprehend the American attitude towards flying in general. The public remained skeptical. It would take time for Americans to come to the conclusion that flying was safe, convenient, and affordable enough to justify a try. That day would come, but not in time to reverse Chambers’ misfortunes with Florida Airways.

¹⁰² Chambers, Memo, 2.

Chapter 6

Into Insurance

To date, Chambers' civilian aviation experience had not produced the profits for which he had hoped, but it had been instructive. With the Durants' airline, he was stymied by equipment limitations. The surplus warplanes readily available were completely inadequate for air-transport operations. Before he could compensate by buying planes from Europe, however, funding was cut for his project. Next, in his aerial photography business, he again confronted the technological limitations of the available airframes. Even though the Jenny was more powerful than his own Standard J-R, he still was unable to reach the altitudes necessary to capture an uninterrupted picture of the terrain below.

When Ford-Stout announced its plans to mass-produce the AT-2s, Chambers believed his technological problems had been solved. He was partially correct in that the Air Pullman was capable of carrying passengers and cargo in relative comfort and in sufficient quantities to turn a profit, however, the society upon which the airline depended on for patronage and support was not yet ready to accept this new method of transportation. Partially because of the dangers of flying, trumpeted during the disastrous military airmail episode of the early 1920s, and partly because of the newness of flying, people were reluctant to book passage on Chambers' airline. Additionally, even in those cities that promoted aviation and wanted an aerial connection to other locations, there was a reluctance to invest the time and effort necessary to create suitable airfields.

Chambers' AT-2s, which were the most modern American transport aircraft of their day, could not service some of his locations because the state of the fields. Either the runways were too short and bumpy, too soft, or there were obstacles. Civil engineering, as it applied to airfields, had not caught up with aviation technology to provide suitable berths for Florida Airways' fleet.

Undoubtedly Chambers felt certain that he could overcome these challenges as he continued to work on opening a route into Cuba. He was not as sure, however, of how he was going to raise capital. To date, his investors had suffered staggering losses with little to show for their faith in aviation's potential. Chambers understood this and, as a result, he was not as confident in taking his investors' money as he had been before.¹ Returning to New York to meet with Hoyt and Mixter again, he laid out his concerns:

Look, this operation without insurance just doesn't make sense. I mean I can't conceive of people continuing to put money in here where you can lose your whole capital investment by one happening. And I haven't been able to find any way to buy aviation insurance.²

He had attempted to buy aviation insurance before picking up the Ford-Stout planes at Dearborne, but found that both of the two companies that had attempted to sell this type of insurance after the war had quit the business after losing a great deal of money. After losing the two AT-2s in the Miami hurricane, he had approached Horatio Barber and George Lloyd who were operating Baldwin and Barber for the Independence Companies of Philadelphia, but learned that this company was only insuring privately owned aircraft.³ When Chambers explained that he wanted to insure his entire airline fleet, the

¹ This section from Chambers, *Reminiscences*, 72-77 and Chambers to Anderson and Smith, 2-4, unless indicated otherwise.

² Chambers, *Reminiscences*, 73.

³ Barber and Baldwin held something of a monopoly on aviation insurance at this time. The firm functioned as the aviation-underwriting managers for the Independence Insurance Company and Independence Indemnity Company, both of Philadelphia, which later became the Aero Insurance

insurers made him an unusual offer. Barber claimed his firm could not write the insurance until Chambers' operation was thoroughly inspected.⁴ The insurance company was willing to send an inspector, Archibald Black, to Florida, for \$25.00 a day plus expenses. Black would observe the operation then report back to the company, which would then review the matter. If they decided to offer the coverage, they would set their rates then get back in touch with Chambers. Barber estimated Black's inspection would take at least thirty days. Chambers calculated he was looking at an expense of at least a thousand dollars, with no guarantee he would even get coverage, let alone reasonable rates. Further, he learned that Black was not a flyer and had no practical knowledge of aviation. Somewhat outraged, he dropped the entire matter. He had not given the issue too much concern after this initial attempt, however, in light of his losses from Mike Brady's crash in the Curtiss Lark, he now felt it imperative that he obtain insurance before buying more planes.

Mixer listened intently to Chambers' dilemma, then called Marsh and McLennan, a brokerage house under Stone and Webster. They sent Fred Davey, from their Special Risks Department, to Mixer's office, to listen to Chambers' story. Again he explained his insurance needs to Davey, who did not seem receptive at all. Chambers later said, "he looked at me as though I was crazy."⁵ After hearing Chambers out, Davey said he had never heard of aviation insurance for an entire airline, and doubted that it would even be possible. He left Mixer's office and went back to his desk at Marsh and McLennan,

Underwriters. Horatio Barber had been a Captain in the Royal Air Force and had authored the book *The Aeroplane Speaks*, popular among pilots and aviation enthusiasts immediately after the war (Beebe, 87).

⁴ Reed Chambers, "What Insurance is Doing for Aviation," a paper presented to the open forum of the Aviation Insurance Law Committee, International Association of Insurance Counsel, at Chicago, Illinois, on September 8, 1944, 1-2. The transcript is on file at the USAU archives. Hereafter, this document will be cited as "Chambers, *Insurance for Aviation*."

⁵ Chambers, *Reminiscences*, 3.

where he worked in an office with another Great War veteran, former DH-4 pilot Dave Beebe. Davey told Beebe that he had “just run into the craziest guy he’d ever met,” then explained Chambers’ request.⁶ Beebe was not so quick to dismiss the idea, but as his company did not support aviation insurance for airlines, there was nothing he could do at the time.

Meanwhile Chambers had made a distinct impression on Mixter. Since insurance would serve as financial protection for his and his clients’ investments, Mixter felt an obligation to pursue coverage. After sending Chambers out with a promise to supply him with the capital he needed to maintain his corporate structure in Florida and to work on the Caribbean route, Mixter cabled Mr. Harvey Bowring of C. T. Bowring, headquartered in London. Bowring was the agent who had set up insurance coverage for Britain’s Imperial Airways. Mixter learned that Bowring would be in New York the following month, and asked if he could set up a meeting between Chambers and the British insurance agent during that visit. He then telegraphed Chambers to notify him of the meeting.

Chambers was elated by Mixter’s message. He pulled his staff around him and began designing a new company brochure, showing the company’s expanded route into Atlanta, the proposed route to Cuba, its operating schedules, an updated list of employees and investors, and extolling the distinct advantages of operating in Florida with its mild climate and flat terrain. The brochure described the airline’s methods for communicating, using telephones and telegraph (it had no radios at that time), as well as its system for gathering weather information. Chambers also included information on airports, even explaining the poor condition of Paxon Field. He was adamant that the

⁶ Ibid.

brochure had to be “absolutely truthful,” as any mistake or exaggeration could result in a denied claim at a later date.⁷ In a way, the brochure was yet another of Chambers’ sales pitches. Instead of selling airline investments, however, he was now trying to sell the British agent on the idea of insuring his airline. When the brochure was finished, he forwarded it to Bowring’s firm.

A few weeks later, Chambers had his opportunity to sit down with Harvey Bowring in New York and go over the brochure. After an hour-and-a-half, English insurance expert summed up Florida Airlines’ prospects for British insurance coverage as follows:

Well, when I get back to London I’ll see what can be done, but frankly, I can’t encourage you, because this was a rather difficult thing to do for Imperial Airways, and I don’t think the Lloyds underwriters want to experiment too far from home, until they’ve learned a little bit more about aviation insurance.⁸

Crestfallen, Chambers returned to the task of resuscitating his airline.

Meanwhile, Dave Beebe, Fred Davey’s office partner, remained interested in aviation insurance. He believed commercial aviation had an excellent future in the United States and thought it would be immensely profitable to become involved in it, if only from the standpoint of providing insurance.

Beebe had strong ties to aviation. He had left Yale at the end of his second year to join the Aviation Section of the Signal Corps. He received his aviator’s ground training at Rich Field in Waco, Texas and his advanced flying training in Canada. Apparently

⁷ In addition to being truthful, Chambers claimed his new brochure was “a very complete picture of our operations, far more detailed than we ever see today when we are asked to underwrite an airline” (Chambers to Anderson and Smith, 3).

⁸ Chambers, *Reminiscences*, 74.

Beebe was not a skilled pilot, as he often boasted that he was an ace of sorts – if one counted “cracked-up American airplanes!”⁹

Upon his arrival in Europe, Beebe was assigned to Captain Daniel Morse’s 50th Aero Squadron, flying DH-4 aircraft. The squadron’s insignia was the “Dutch Girl” from the kitchen cleanser of the same name. In October 1918, it was the 50th that was sent in to locate Major Charles W. Whittlesey’s famous “Lost Battalion.” Beebe had been involved in that operation, but was not aboard the flight that actually located the surrounded Americans.¹⁰



Fig. 45. Dave Beebe at a London train station during the Great War.¹¹

⁹ Reed M. Chambers, “David E. Beebe,” undated biography written sometime after Beebe’s death on March 28, 1950, and filed among Reed Chambers’ personal papers within the USAU archives. This document will hereafter be referred to as “Chambers, *Beebe*.”

¹⁰ The honor of finding Whittlesey’s men went to others: Lieutenant Harold E. Goettler, pilot, and Lieutenant Erwin R. Bleckley, flying a DH4, were so frustrated over their failure to find the Americans that on October 6th, three days after the American infantrymen first found themselves trapped, these two airmen started buzzing the entire area, marking their maps with all the places that they drew fire, hoping through the process of elimination to find the Americans. It was a suicidal technique. Their plane riddled with bullets, they crashed within two hundred yards of the French lines with Goettler dead at the controls and Bleckley dying in the rear seat. Fortunately, however, their maps were recovered intact. The following morning other pilots of the 50th attempted to finish the work Goettler and Bleckley had started. Lieutenants Robert M. Anderson and W. J. Waters located the soldiers on October 7th. Goettler and Bleckley were posthumously awarded the Congressional Medal of Honor for their efforts (Hudson, 266-268).

¹¹ Daniel P. Morse, *The History of the 50th Aero Squadron, The ‘Dutch Girl’ Observation Squadron in World War I* (Blanchard Press, New York, 1920), 62.

On November 4th, while flying an artillery-spotting mission, Beebe and his observer, Lieutenant. Lockwood, were forced to down near Tanney, after their plane was damaged by small-arms fire from the ground. They were captured and spent the last week of the war in a German prisoner-of-war camp.¹²

After the war, like so many American pilots, Beebe was unable to find any aviation-related work. Instead he hired on at an oil company in Kentucky. Finding this not to his liking, he moved to New York where he landed a mid-level job at Marsh and McLennan, working marine-cargo issues in their Special Risks Department. It was here, through Fred Davey, that Beebe first heard the name Reed Chambers.

Intrigued by the prospects offered by aviation insurance, Beebe thought he would enjoy traveling to England, to learn first-hand how Bowring and his people had managed to provide coverage for Imperial Airways. Beebe had recently married a wealthy woman of English descent. As they had not yet had time for a honeymoon, Beebe approached his employers to ask for a leave of absence beyond the holiday he was due, so that he might take an extended trip to England, ostensibly for a delayed honeymoon and to meet his wife's family. Beebe, however, had much more on his mind. He and his wife sailed for England on October 14, 1927.

Arriving in England, he quickly made arrangements to visit Harvey Bowring. Bowring explained how he had brokered the insurance deal for Imperial Airways, with Lloyds of London underwriting the risk. He also gave Beebe copies of forms his company had used – such as applications, policies, and claims forms – to show Beebe how they had administered the coverage. Then Bowring set up a series of meetings in which Beebe talked to representatives from various insurance pools at that time,

¹² Morse, 62.

providing coverage for aircraft. He met with representatives from Lloyds, a Scandinavian insurance pool, the Germans' *Luftpool*, as well as the French and Italian consortiums. After these interviews, Beebe returned to Bowring's office to review what he had learned, and to get clarification on a few vague points.

In this final meeting with Bowring, the Englishman explained again that his underwriters would never cover a risk so far away as the United States, but might manage to share the risk with an American insurance pool. Bowring told Beebe that if he could assemble a group of fire and casualty companies willing to assume 40% of the risk, he could arrange facultative reinsurance for the remaining 60% on the London market.¹³ Beebe was elated with the idea, but was unprepared for Bowring's follow-up question. What commercial aviation experience did he have, Bowring asked. Beebe answered honestly, that he had none at all. Familiar with Chambers' operation in Florida, Bowring recommended that Beebe get in touch with the President of Florida Airways, as he seemed to have a head-start in the American commercial-aviation industry. Beebe said he would do that, and they parted company.

Upon his return to work at Marsh and McLennan, Beebe got in touch with Chambers through George Mixer's office. In a letter, he asked if the airline executive might know of someone with both the technical knowledge and inclination to join in a new aviation-insurance venture. Chambers never considered himself for the job. In the first place, he

¹³ Facultative insurance is essentially reinsurance. When an underwriter wants to share the risk he has covered, he will offer a portion of that risk on the reinsurance market – he will facultate the risk. Another company will buy that risk. To ensure that their premiums provide sufficient income to cover their share of the risk, insurers will often request a quote on the facultative market for the portion of the risk they wish to reinsure before quoting a premium to the potential insured. Facultative insurance normally involves a specific risk, while "treaty insurance" refers to a block of risk that is shared on the reinsurance market. (Author's interview with Pat Vallone, February 19, 2002. Vallone is a former subordinate of Reed Chambers', later a Vice President and then, after retiring, a consultant to USAU. Vallone was an invaluable resource in deciphering the language of the insurance business and provided excellent insights into the daily operation and atmosphere within Chambers' corporation.)

knew nothing about the insurance industry, and secondly, he still hoped to make a go of his airline, exploiting the Cuban market. Chambers did not hesitate in recommending Rudolph W. ("Shorty") Schroeder, whom he had met at the McCook Field flight tests in 1919. He explained that Schroeder had been working for the Stout Division at Ford when he had last heard from him.

Beebe wrote to Schroeder, but found that he had left Ford-Stout to work at Underwriters Laboratories in Chicago. Underwriters Laboratories were originally going to conduct aircraft safety inspections, however, when it appeared obvious that the federal government was eventually going to design safety standards of its own, Schroeder saw that his value at Underwriters would be short lived. He found employment with Curtiss' Flying Service, working with Casey Jones. When Beebe's letter reached him, Schroeder was already committed to a five-year contract with Curtiss, about to set up Reynolds Airport just north of Chicago. He replied that he would have jumped at Beebe's offer if it had only come before he had signed his contract with Curtiss.

Frustrated, Beebe wrote to Chambers for a second recommendation. Chambers recommended Corliss Mosley, but Beebe found that he too had contracted with Curtiss. Curtiss engaged Mosley to set up what became Burbank Field near Los Angeles. It was obvious to Beebe that getting a technical expert as a partner was going to be more difficult than he had imagined. He decided to approach Chambers directly, to see if he could talk the former ace and current airline president into switching professions.

Meanwhile, an event occurred that was to have profound effect on the future of commercial aviation in the United States. On May 20, 1927, Charles Lindbergh took off from Curtiss Field on Long Island, in an attempt to become the first man to fly solo

across the Atlantic Ocean. He landed thirty-three hours and thirty minutes later, at Le Bourget Field outside Paris. His flight had an astounding affect on America's opinion of aviation. The American Heritage *History of Flight* records Lindbergh's impact:

The Lindbergh flight acted like adrenaline in the blood stream of American aviation. In a single year after Lindbergh's flight, applications for pilot licenses in the United States jumped from 1,800 to 5,300. In 1928, the nations airline operators doubled their mileage, trebled their mail load, and quadrupled the number of passengers they had carried in 1927. And airline stock boomed. In 1929, before the stock market crash, the public bought aircraft manufacturing securities to the tune of \$400,000,000.¹⁴

After Lindbergh's flight, it seemed that everyone wanted a piece of aviation. It boded well for operators seeking investors, but it also heralded the arrival of competition.

Chambers had been attempting to broker a deal to open the route to Cuba for most of 1927. As it began to appear that such a deal might be possible, however, he was distressed to learn that he now had competition for the route. As he recalled in a 1954 letter:

This was my original idea, but I talked to too many people, created too much interest and as a result, competition moved in on me.¹⁵

As part of its bankruptcy reorganization, Florida Airways had ceased to exist. Chambers called his new airline Atlantic Gulf and Caribbean Airways, betraying his long-range

¹⁴ Josephy, *Flight*, 243. In actuality, the public's exuberance in embracing aviation was much faster than the airlines' ability to meet the new demand. Shortly after Lindbergh's flight, the eighteen airlines then carrying airmail decided to organize to create the world's first consolidated air passenger schedule. This would enhance service by integrating the individual lines' schedules. Harold Crary was selected to head the new organization, which was named the American Air Transport Association and headquartered in Chicago. Crary worked with two secretaries, on a budget supplied by the airlines. For each mile they flew on a contracted airmail route, each airline contributed one cent to the Association. Two months after the Association was created, Irving Glover, Assistant Postmaster General in charge of Airmail, called Crary to his office and Washington and chastised him severely: "Now you airmail operators have gotten an association; you go back and tell those fellows that if they don't start in the passenger business in an organized way, I am going to cut their subsidy." Crary called a meeting of the eighteen carriers then in the airmail business, but found many of the owners extremely reluctant to provide passenger service. Some felt it too dangerous – too risky – while others claimed they would need a lot more capital to purchase suitable equipment and terminals. Crary warned the owners that Glover meant business. Through constant haranguing and trips around the nation to spur the airlines to action, Crary was able to build and publish a consolidated nationwide passenger schedule within a few months. (Harold Crary to Reed Chambers, June 23, 1961, USAU archives. Crary sent this letter to Chambers in response to a letter he had written praising Crary's contributions to scheduled passenger flights.)

¹⁵ Reed Chambers to A. C. ("Wally") Wallace, Watertown, New York, March 18, 1954, USAU archives.

goal of circling the entire Gulf of Mexico.¹⁶ With virtually the same financial backers as before – except for Rickenbacker, who had experienced difficulties with Rickenbacker Motors – Chambers was attempting to break into the Central American markets, through Cuba. He had no planes; he had only his own belief in himself and the project, and the goodwill of Dick Hoyt and his other backers. His competition was formidable.

Juane Trippe had organized the Aviation Corporation of the Americas backed by Cornelius Vanderbilt (“Sonny”) Whitney, William Rockefeller, Jr., and several other powerful investors.¹⁷ To his dismay, Chambers learned that Trippe was bidding on the same Havana route that he had negotiated. Chambers did not know, however, that Trippe had in his possession a letter signed by Cuban President Gerardo Machado granting Trippe a number of concessions in his country, most notably exclusive landing rights.¹⁸

If that were not competition enough, Chambers also learned he was being challenged by some newcomers to the commercial aviation industry, Richard Bivere of New York and John Montgomery of Washington D.C. Bivere and Montgomery were joined by Chambers’ old friend Henry “Hap” Arnold, forming Pan-American Airways. Chambers was incorrect in assuming his competition was only after profits; Pan-American’s move

¹⁶ Chambers to Anderson and Smith, 4. This new airline was not incorporated until October 11th, but existed as a non-legal entity, with financial backing, during much of the period Chambers was negotiating for the Havana route. (Ron Davies, “The Story of a Great American Airline: Pan-American is Forty,” *Esso Air World*, Sep/Oct 1967, 31.)

¹⁷ After the Kelly Act of 1924, with Rockefeller and Whitney’s backing, Trippe founded Eastern Air Transport, a paper company, to bid on the New York-to-Boston mail route. When confronted with competition for this route, from Colonial Airways, Trippe proposed a merger with himself serving as the line’s managing director. He then expanded Colonial’s routes, flying two Fokker and two Ford trimotor airplanes along the eastern seaboard as far south as Miami. The management staff at Colonial, however, thought Trippe was moving too fast and, in 1927, pushed him out of the company. Undeterred, Trippe contacted his backers and started a new company, the Aviation of the Americas Corporation. This is the firm that would compete with Chambers for the Havana route. Oliver E. Allen, *The Airline Builders* (Time-Life Books Alexandria, Virginia, 1981), 144-145.

¹⁸ Trippe met with the Cuban President on a 1926 flight to Havana with Tony Fokker. This is where he got the letter granting landing rights and it was also when he began eyeing the route from Miami to Havana (Allen, 145).

into South America was motivated by patriotism.¹⁹ Arnold had been working in Intelligence when he learned of a German-run airline out of Columbia, operating under the acronym SCADTA, which was vying for the Caribbean route.²⁰ Seeing the German expansion as a threat to the Panama Canal, they started their airline to protect American interests in the region. They had no money, but they did have the backing of some powerful Wall Street men. All three companies wanted Chambers' route to Cuba. In July of 1927, Pan-American won the bid for the route.²¹ There was a problem, however: it had no planes and no money. Further, it had to be in the air by October 19th of that year to retain the contract.

Dick Hoyt, of Hayden Stone, realized that there was probably a solution that would benefit all concerned.²² Perhaps partially inspired by the fact that he and other investors had yet to collect anything on the Florida Airways venture, and therefore anxious to share some risk, while getting into the Central American market, Hoyt proposed a merger. It was a fortuitous combination: Hoyt and Chambers' other backers had money; Trippe had backers of his own, a few planes, and that all-important letter; and Pan-American had the contract.

Chambers was incensed by the idea, but as reliant as he was upon his investors, he could hardly overrule them, especially as they formed his own Board of Directors. He accepted the idea of a merger, reporting to New York early in the summer of 1928 to draw up the paperwork. Chambers' Atlantic Gulf and Caribbean Airways and Trippe's

¹⁹ Ibid., 145-146.

²⁰ Because there were many German immigrants and business concerns in South America, German businessmen decided to open airlines in this region. Although it used German machines and was staffed with German employees, this airline was known by its initials in Spanish, SCADTA (Allen, 42).

²¹ Ibid., 146.

²² Details of the merger and Chambers' reaction from: Chambers to Anderson and Smith, 4; Chambers to Wallace, 3, and Chambers, *Reminiscences*, 77.

Aviation of the Americas Corporation were to merge under the new name Aviation Corporation of the Americas, which was to serve as a holding company for Pan-American Airways, the single representative entity on the Havana route. John Hamilton of Baltimore, Maryland, was made President of Pan-American, while Chambers and Juane Trippe were appointed Vice Presidents.

Chambers was livid with the arrangement. Other than his title of Vice President, all he had to show for all his efforts was stock in the new company. Perhaps because of his appreciation for the value of the Florida Airways stock he had sold, this was not particularly comforting, even though the Pan-American stock would one day prove to be extremely valuable. Regardless of its later value, however, Chambers understood at the time that he had been bought out. Further, the combined corporate investors maintained that it was a bad time to attempt to open a new route. Claiming they did not have sufficient funds to buy the planes they would need to cover the expansion adequately, they decided to limit their operations at first, and then expand them as equipment arrived and finances improved. Aware that they really had no need for Chambers' services, at least in the beginning stages of their new undertaking, the Board of Directors were essentially asking their corporate executive to sit idle for a year. Chambers was outraged all the more.²³

²³ As Pan-American's fortunes soared, Chambers was able to forgive and forget the insult of being bought out and set aside for a year. In his 1960 interview, he recalled with admiration:

Juan Trippe turned out to do a far better job than I could ever have done. He's one of the most terrific guys – with an imagination and the foresight, and the power to drive it through – that I have ever known. He's done an outstanding job and I might add, all of the original stockholders of all three companies have been adequately rewarded for their belief in the future of air transport. (*Reminiscences*, 78)

It appears that Chambers' long-suffering investors eventually earned a healthy, if not somewhat belated return for their faith in Florida Airways.

Meanwhile, Trippe had to extemporize a solution in order to meet the Postal Service's requirement to fly mail to Havana by October 19th.²⁴ He ordered two Fokker F-7 trimotors, to expand Pan-American's small fleet, and committed \$150,000 of the new company's funds to building a suitable landing field at Key West. Chambers strenuously objected to this latter expense.²⁵ He felt that the new company should use floatplanes until it began making a profit, but was quickly overruled. He took the rejection of his counsel as yet another slight; and an ominous sign of his declining power in the new organization. As October 19th loomed, Trippe found that his order for the two additional Fokker F-7 trimotors had not yet been filled, and that the Key West airfield was not anywhere near ready for air traffic. Combing the Atlantic coast for a seaplane capable of making the flight, Trippe learned that Cyril C. ("Cy") Caldwell had just landed at Miami, on his way to deliver his single-seat floatplane to a buyer in Haiti. Paid handsomely, Caldwell and the new floatplane were anchored in Key West Harbor on the morning of October 19th. A small boat motored out to the plane and delivered seven sacks of airmail, which Caldwell crammed into the small storage space behind his seat. The loading operation complete, he took off and flew to Havana. This was Pan American's inaugural flight. Hardly one of the great achievements in the history of air commerce, the flight did manage to meet the government's requirements for commencing service, guaranteeing continued airmail income for the new airline. Within a week, the two trimotors arrived, Key West's field was open, and irregular flights began along the route. On January 16, 1928 the airline carried its first paying passenger.

²⁴ The deadline and Trippe's innovations to meet it come from Allen, 146.

²⁵ Brennan to White, 6.

While waiting in New York, Chambers had several luncheons with Dave Beebe. Ostensibly these were so that the airline executive could impart some knowledge of the commercial aviation business; however, when Chambers started complaining about having his plans postponed for a year, Beebe saw his chance. “Why don’t you come with me for a year and help me do the thing you feel is so necessary – establish an aviation insurance market?”²⁶ Chambers had declined earlier offers because he felt that “nothing could be more boring” than working in aviation insurance.²⁷ He changed his mind, however, when Beebe changed his approach. Beebe pointed out that Chambers had complained almost constantly that American insurance companies were not doing their duty to assist commercial aviation. If Chambers really believed what he was saying, Beebe argued, why not make some personal sacrifices to get the industry started? Together, he concluded, the two of them could “put some sense in aviation underwriting.”²⁸ Never one to back down from such an obvious challenge – the inferred “put up or shut up” in Beebe’s argument – Chambers relented.

Discussing it with Rockefeller, Hoyt, and Mixter, the group concluded that Chambers should take a year away from the airline to try to start an American aviation insurance business. If the endeavor failed, they promised, he could return to the airline.²⁹

²⁶ Chambers to Anderson and Smith, 4.

²⁷ Chambers, *Insurance for Aviation*, 2.

²⁸ Ibid.

²⁹ Chambers’ accounts of this promise vary. In his 1960 letter to Anderson and Smith, he claims that the backers only promised him that he could “come back.” In his October 1960 interview, however, Chambers claimed that one of the men, probably Hoyt, said, “Look, we don’t think this thing is going to work out this way and we’ll promise you that if it doesn’t, you’ll become the president of the outfit” (*Reminiscences*, 77-78). In another description of the incident, an undated document penned by Chambers and mailed as an attachment to the Brennan-to-White letter dated Mar 7, 1989, he was even more direct in describing this promise:

It was their [Rockefeller’s and Mixter’s] feeling that I would come back and run the airline anyway. At that point, they had no confidence in either John Hamilton or Juan Trippe because Juan had already goofed up one operation between New York and

Dave Beebe had learned the insurance market during his almost seven years with Marsh and McLennan. He had built upon that knowledge during his visit to Europe, where he had met with representatives of all the big European insurance consortiums then handling aviation insurance. Essentially, he and Chambers were forming an insurance management organization. They would serve as the insuring agents for a group of companies. Their role would be to take applications, write policies, collect premiums, and disburse payments to the group of insurers who would, in return for a portion of the premiums, share the risks and pay the claims. It was an economical and efficient way for companies to do business. Instead of multiple companies each hiring a team of experts and an underwriting staff, Chambers and Beebe would perform these functions for them at a fraction of the cost. This was essentially the system Beebe had observed in Europe.

Chambers found this business extremely complex. Prior to meeting Beebe, he knew virtually nothing about the insurance business. He recalled:

The insurance jargon meant absolutely nothing to me. I have often said that when I came in the business, I didn't know the difference between a life insurance policy and a fire insurance policy.³⁰

Despite his ignorance, however, his name and his fame as a war ace were invaluable in the pair's efforts to meet insurance-industry leaders face-to-face.

Boston, and they evidently knew more about Johnny Hamilton than I did because of his father's reputation in the investment banking business (Brennan to White, 6).

It is impossible to determine which account is most accurate. It appears unlikely that Chambers' backers "had no confidence" in Juan Trippe, since they so readily supported his initiative to spend \$150,000 on the Key West field. Even if John Hamilton had failed, it would have been difficult to appoint Chambers as his replacement. Such a move would have been hotly contested by Juan Trippe, and rightly so, since he held the letter granting landing rights and had brought in most of the aircraft and at least half of the financial backers for the venture.

³⁰ From an undated, six-page missive Chambers authored entitled, "Organization of United States Aviation Underwriters and United States Aircraft Insurance Group," filed in the USAU archives and hereafter referred to as "Chambers, *Organization*."

Armed with their ideas, they began canvassing companies in the early spring of 1928, trying to build interest in aviation insurance. Beebe had already received a positive response from J. Lester Parsons, of Crum and Forster, as well as from Mr. Clinton Meserole of the Pacific Fire Bankers and Shippers Group. Meserole lived near Beebe and they had met each other socially while Beebe was with Marsh and McLennan. Both of these firms, however, were adamant about not wanting to join an underwriting agency run by brokers. Beebe and Chambers were able to assure these and other company representatives that they would manage the underwriting firm; they would not turn it over to brokers.

In visiting the various companies, the pair found it nearly impossible to convince the executives that there was a potential for profit in aviation insurance. Chambers did not even believe it himself. As he had proved years before, whether selling cars, persuading a governor to let him out of the National Guard, convincing a commander to let him go to machine-gun school, selling stock, or selling investors on the idea of commercial aviation, he was a natural salesman. Yet Beebe saw none of Chambers' flair for sales in the pair's initial meeting with prospective underwriters. On the contrary, the ex-airline executive seemed as unconvinced about the companies' ability to make money as the prospective investors did. As Chambers observed, "I have never been able to sell anything I didn't believe in."³¹ It appeared obvious that at first, despite the fact that the operators so desperately needed the coverage, Chambers had little faith in anyone's ability to yield a profit from covering airplane operations. He felt that in painting a rosy

³¹ Chambers to Anderson and Smith, 5.

picture of potential profits for the executive they visited, that he and Beebe were “insulting their intelligence.”³²

History, to that point, supported Chambers’ perception.³³ Many of the leading American insurance firms had attempted to underwrite aviation immediately after the Great War, but with uniformly disastrous results. Several of the companies reported a one hundred-percent loss ratio, and these were not loss ratios as the term is commonly understood – as a ratio of losses to premiums – but a one hundred percent loss of the risks they insured. Every insured plane crashed, burned, or was destroyed in some other way. The lessons of this early aviation experience were not lost on the market Beebe and Chambers faced in 1928.



Fig. 46. Reed Chambers, Insurance Executive.³⁴

In order to sell the idea, Chambers had to find an approach in which he could believe. He worked out a new sales presentation built on Billy Mitchell’s call to expand civil aviation so that it would serve as the bedrock for military aviation in the event of a

³² Ibid.

³³ Chambers, *Insurance for Aviation*, 4.

³⁴ From personal collection of Mrs. Sharon Turner, Chambers’ granddaughter.

national emergency. Never one to mince words, Chambers reinterpreted Mitchell's warning: "Unless commercial air transport was encouraged in this country, the future would find the United States behind the 8-Ball, militarily."³⁵ Beebe was excited about the new approach and how it reinvigorated his partner's enthusiasm for their undertaking.

In their new presentation the pair insisted that investing in aviation – be it in design and building, air commerce, or insurance – was a patriotic duty. From this beginning, Chambers reasoned, commercial aviation would eventually expand to become as indispensable to modern commerce as railroads had been up to that time.

To their amazement, the patriotic sales pitch worked, in spite of the fact that the pair remained very candid about their prospects for early returns. They cautioned each of the representatives that they visited not to invest unless they were willing to face losses of approximately \$50,000.00 per year for the first few years.³⁶ It was hardly a presentation designed to inspire confidence, yet it kindled a sense of patriotic duty that motivated many to action. J. Lester Parsons and Clinton Meserole were the first to sign up to be part of the new insurance group. Meserole brought in the Pacific Fire Insurance Company, while Parsons represented both the United States Fire and North River Insurance Companies. With its first three member companies in place, Chambers now became concerned over the operation of the parent company. After the premiums were split among the insurance group sharing the risk, what would be left for the management organization? Neither of the two men had personal funds sufficient to set up the underwriting company on their own. Chambers confessed later that even if he had the money, he "would not have put it in[to] United States Aviation Underwriters, Inc., at that

³⁵ Ibid.

³⁶ Brennan to White, 8 and Chambers, *Insurance for Aviation*, 5.

time.”³⁷ He was still unconvinced that the business would ever prove profitable. Yet he continued to join Beebe as they worked their way through the New York insurance companies. They were not always well received

One meeting with the President of the Home Insurance Company went particularly bad: When it became apparent to the executive that Chambers and Beebe were not going to take no for an answer, the executive called upon a man from his outer office: “Please show these gentlemen to the door,” he instructed his subordinate.³⁸ Chambers recalled that the man “threw us out on our necks.”³⁹

Over the course of their months working and traveling together, Dave Beebe and Reed Chambers became very close friends. Chambers recalled that he found Beebe to be “one of the most dedicated, honest, and high-principled men it had ever been my pleasure to know to that time.”⁴⁰ The pair found that they had much in common, particularly in how they thought their business should be run. As they were together almost constantly, they became the butt of jokes among their circle of friends and acquaintances. Chambers explained:

They called us anything from “the Gold-Dust Twins,” [to] “The Siamese Twins,” and called him “the Virgin” and I (*sic*) “the Prostitute,” but we both loved it.⁴¹

“The Virgin,” probably earned his moniker because of his reserve in public, especially when that reserve was contrasted with Chambers’ boisterous nature and renowned penchant for strong language. Chambers explained that “Dave was somewhat near-sighted, and to strangers, quite shy.”⁴² Many people mistook Beebe’s nature for

³⁷ Brennan to White, 8.

³⁸ *Ibid.*, 7.

³⁹ *Ibid.*

⁴⁰ Quote and information in this paragraph from “Chambers, *Beebe*,” 1.

⁴¹ *Ibid.* Chambers’ latter moniker was probably cleaned up for print.

⁴² *Ibid.*

arrogance, but according to Chambers, his partner was a sincere and caring man. Part of the problem seemed to stem from Beebe's poor vision. He was unable to recognize people until they were quite close to him and, because he was somewhat vain about his appearance, he refused to wear glasses. Because of this, he often failed to speak to friends and acquaintances on the street. Yet despite his aloofness, Chambers claimed that anyone who got to know Dave Beebe loved him.

Though their vastly different natures sometimes clashed, they also complemented one another. They were able to work around their differences to maximize the value of their differing views. Despite Chambers stubborn streak, he always deferred to Beebe's superior experience in and knowledge of the insurance business, so that both men approached their endeavor with an open mind. He recalled that,

Up until the time he died, Dave and I never had an unfinished argument. Sometimes we disagreed but we talked the thing out and if he sold me, I bought it 100% and if I sold him, he bought it 100%, so that from there on, our course was as one. I reiterate that I have never known of a business partnership that was as pleasant and congenial as ours.⁴³

It was fortunate that the pair's working relationship was so convivial, particularly in the early days when the stress of building their business was greatest.

Based on Bowring's advice, their goal was to have four fire and four casualty companies in their insurance group before they began to offer policies. The need to include both fire and casualty companies in their management organization was primarily driven by state legislation. Many states restricted insurance companies to writing policies in only one of the three major lines of insurance business: fire, casualty, or life.⁴⁴ The fire companies would cover risks to planes – essentially hull insurance – while the

⁴³ Chambers, *Beebe*, 2.

⁴⁴ Kailin Tuan, "Aviation Insurance in America, Half a Century's Progress" (presented at the annual meeting of the American Risk and Insurance Association, Chicago, Illinois, August 31 to September 2, 1964), 15. Copy from USAU archives.

casualty companies would cover losses resulting from crashes, such as property damage and death. With eight companies, Bowring had explained to Beebe, no one firm would have to absorb too large a share of the risk. At that time, the largest, most expensive planes in use were the trimotor Fokker F-7s, of the type Trippe had purchased for Pan American, and the trimotor Ford-Stout AT-4s, the follow-on to Chambers' AT-2s. (The AT-4 was later affectionately nicknamed the "tin goose," the name by which it was most widely recognized.) These planes were valued in a range from about forty- to sixty-thousand dollars each. This meant that the fire and casualty companies would each hold a four-to-six-thousand dollar risk in every trimotor insured (ten percent) with the other sixty percent placed as facultative reinsurance, per Bowring's instructions.

The math seemed simple; the problem was getting companies to join their group. After several months of visiting insurance executives, they had signed only two fire companies and no casualty firms. Then, through a mutual friend, Beebe managed to get an introduction to William Joyce of the National Surety Company, who was at that time in the process of organizing a new casualty company to be known as the New York Indemnity Company. The new firm was to be headed by Spencer Welton, with W. C. Billings serving as his Vice President. Joyce directed the insurance partners to meet with Welton and Billings. These men were receptive to the new venture and agreed to join the pool. Chambers observed later that because their firm was so new and lacked the financial assets of the established firm, theirs was "probably the least equipped of any company in the country to do this."⁴⁵ Nevertheless, Beebe and Chambers were overjoyed to have a casualty company on board.

⁴⁵ Ibid., 5.

Through another contact, Beebe learned that R. Howard Bland of the United States Fidelity and Guaranty Company (USF&G), a leader in the casualty business, was a very public-spirited fellow who might also be interested in joining the group. Beebe and Chambers made arrangements to meet him at his William Street office in New York, where he would be visiting a short time later. Upon their arrival, the pair was ushered in to see Bland, who curtly told them he could spare them only a few minutes, as he had a meeting to attend. They launched into their pitch. After twenty minutes, Bland held up his hand and interrupted:

Boys, I am very much interested in this and would like to hear more about it, but can't give you any more time as I am already late for my meeting. Could you come to Baltimore and...talk further about it then?⁴⁶

Overjoyed that such an important figure in the casualty business was interested, they responded that they could be in Baltimore at Bland's earliest convenience. Filing out of the office, they made arrangements with Bland's secretary to meet him at his Baltimore offices the following week.

The following week, they took the train down to Baltimore, arriving the night before the meeting so they might appear well-rested for their presentation. The next morning they entered the USF&G offices expecting to meet with Bland, but were ushered into a large boardroom. As the big door swung open, they saw that there were about fifteen men, seated around a long table. In addition to Bland, there sat Highlands Burns, President of Maryland Casualty Company, his Vice President, Edward Bond, and a third executive, J. McClure Gillet; J. Arthur Nelson, President of the New Amsterdam Casualty Company, with Boyd Nelson and Elmer MacLeod, also of New Amsterdam;

⁴⁶ Chambers to Anderson and Smith, 6.

and Charlie Phillips, Blount Mason, G. Porter Houston, and W. W. Symington, all of USF&G.⁴⁷

Bland stood, and, motioning toward Beebe and Chambers, told the executives that these two young men had a very interesting story, and that he thought it a good idea to call the group together, as they all might be very interested in hearing it. Beebe had never spoken before such a large group before and immediately became tongue-tied. Chambers launched into their pitch, emphasizing the patriotic nature of their effort. Soon Beebe relaxed enough to contribute. Chambers recalled later:

It was the best sales pitch that we had done to that date, bearing down on the patriotic and telling them that we didn't think we could possibly lose them more than \$50,000 a year for the first three or four years. After that, we thought we could probably commence to make a profit.⁴⁸

At the end of their presentation, Bland turned to the assembled group and said, "Gentlemen, as far as I am concerned, the USF&G would like to go into this deal because I believe, as these fellows do, that aviation has a big future."⁴⁹ It was exactly what Chambers and Beebe wanted to hear. They waited breathlessly to see if the other companies would take up Bland's implied challenge. Burns very reluctantly said he would go along. Then, "without batting an eye," J. Arthur Nelson said he too would join the group. Elmer MacLeod, sitting next to Nelson, later confided in Beebe that he almost dropped dead at that moment, "because it was the first he had ever known Mr. Nelson to go off the deep end."⁵⁰

⁴⁷ Complete list of attendees appears in Beebe, 5.

⁴⁸ Brennan to White, 8.

⁴⁹ Chambers to Anderson and Smith, 6.

⁵⁰ Ibid.

The novice aviation underwriters were ecstatic. In less than half an hour, they had secured the remaining three casualty companies they needed to start their business. Their joy, however, was short lived.

Satisfied with his performance in bringing the two other companies on board, Bland asked the pair which company was to be their fourth casualty insurer. Beebe answered that Spencer Welton of the New York Indemnity Company had already joined. Upon hearing this, the executives' faces fell. Bland started from his chair:

Oh, oh, that poses a brand new problem. We just cannot go along with the New York Indemnity so you still have to get a fourth company.⁵¹

With that, Bland asked Beebe and Chambers to leave the room so the group might discuss the situation in private. Outside, the partners fretted. They had gained and lost three casualty companies in the space of less than an hour. Further, if this group would not associate with New York Indemnity, who else might draw a similar line? Would it be possible to uninvite Welton's firm without legal complications? They waited and worried.

Finally the door to the boardroom reopened and they were invited back in. Bland explained the situation. New York Indemnity was not a member of the Insurance Bureau.⁵² Bureau companies would not join in business with non-bureau companies; it was as simple as that. Bland offered the partners a proposition. It was in these firms' best interests to see New York Indemnity join the Bureau. Further, Bland had it on good

⁵¹ Brennan to White, 9.

⁵² At that time, the name of the Bureau to which Bland referred was the National Association of Casualty Underwriters. The Bureau gathered information on losses and claims from its member companies, and developed comprehensive summaries that it in turn provided to its members. In this way companies had better information for setting premiums. Without the Bureau, a company experiencing an unusually large number of claims for a particular line might misjudge the risk and price itself out of the market. The Bureau served to stabilize the market so that no individual company had an unfair advantage (Vallone, Interview, 22).

authority that Spencer Welton was in favor of joining the Bureau, but had been prevented from doing so by William Joyce. Bland wondered if Beebe and Chambers might contact Welton to see if the new firm might reconsider joining. In that event, Bland assured the pair, they would have their four casualty companies. Beebe and Chambers agreed to call on Welton, to try to convince him to join the Bureau.

The next item of business Bland wanted to discuss was ownership of the management company. Like Meserole and Parsons, the casualty companies did not want to participate in an insurance group managed by brokers. They had other stipulations as well.

The three companies had just ended an unhappy association in an insurance group entitled the Associated Companies, an insurance pool that had been organized to write compensation insurance on coalmines. The experiment had failed when member companies carrying other casualty lines decided to dump their compensation insurance into this insurance pool. As a result, the insurance pool ended up paying compensation claims for policies other than those for which the group was founded. Bland and the other insurance representatives wanted to ensure that they would not be exposed to such a risk again. They explained that they would join the aviation insurance group only if assured that Beebe and Chambers would run the management organization themselves, and that they would not allow any of the member companies to use the insurance consortium as a dumping ground for coverage beyond that for which the group was created. The partners agreed to these stipulations readily, as it was always their intent to run the company themselves. Then, their business completed, the two hurried back to New York to see if they could convince Welton to join the Bureau.

They met with Welton and Billings shortly after their return. It was obvious, Chambers recalled, that Welton was very eager to become affiliated with the three prestigious companies from the Baltimore meeting.⁵³ He confided to Chambers and Beebe that they had possibly given him the leverage he needed to reverse Joyce's decision on the Bureau. While the prospective aviation insurers waited, Welton called Joyce to describe these new developments. Joyce relented. Overjoyed, Welton informed the prospective aviation insurance executives that his firm would immediately apply to join the Bureau.

After the meeting, Beebe and Chambers telephoned Bland in Baltimore. He was overjoyed. He said, "Good work, good work... [w]e are a lot more interested at this point in seeing the New York Indemnity go Bureau than we are in making money in the aviation insurance business, so you've done a fine job for all concerned."⁵⁴ The aviation insurance partners had their four casualty companies and only needed one more fire company before they could begin writing policies.

For their final fire company, they set their sights on the National Union Fire Insurance Company headquartered in Philadelphia. National Union was one of Andrew W. Mellon's interests.⁵⁵ Mellon, headquartered in Pittsburgh, had supposedly been intrigued in the fledgling aviation insurance company, so the partners felt confident that this would be their final fire insurance company. They set up a meeting with Mr. Cole, the President of National Union, and met him in Philadelphia a few days later. After a

⁵³ Chambers to Anderson and Smith, 7.

⁵⁴ Brennan to White, 9-10.

⁵⁵ Andrew W. Mellon (1855-1937) was trained as a lawyer, but joined his father's banking house in 1874, became its president, and made a name for himself as an industrial magnate. He was one of the richest men in America by the early 1920s, when he entered politics. He served as the Secretary of the Treasury under three presidents, Harding, Coolidge, and Hoover, from 1921-1932.

lengthy meeting with Cole and his officers, Cole left the room to clear his decision through Mellon's men in Pittsburgh, then returned to say National Union would go along. With that, Beebe and Chambers had their eight companies.

Beebe immediately wrote to Harvey Bowring to inform him that Chambers and he had established their group of member companies and were ready to begin writing policies just as soon as they completed setting up their management team. Beebe included a *pro-forma* agreement with his correspondence. Bowring quickly replied that he remained confident he could place a facultative treaty for the amounts Beebe felt he needed, so long as the management organization was not dominated by brokers. Beebe assured Bowring there would be no brokers, that he and Chambers were supervising the management organization. Beebe would be President of the new company, with Chambers serving as the Vice President.

With their insurance group established and confident of facultative support from England, the partners now had to solve a question that had been troubling them since they started: how were they going to finance their management company? Chambers' experience in financing, gained while working for the Durants, Rickenbacker, and for his own Florida Airways, prompted him toward stock, but in selling stock publicly, they would lose control of the management company. Financing for this endeavor, therefore, would be much more complex than any of his previous initiatives.

They arranged a meeting at a private room at the Bankers' Club to work out their issues concerning finance and control. They invited D. R. McLennan, Ward Seabury, and H. F. Eggert, all from Beebe's former employer, Marsh and McLennan, and J. Lester Parsons, Harold Junker, and Henry Wyatt, from Crum and Forster, to advise them and to

consider investing. After reviewing the pair's plan of operation, the group agreed that Marsh and McLennan and Crum and Forster would each put up \$10,000.00, taking preferred stock in the new management company. This stock was to be in the form of non-voting Class B stock, however, it would be issued in the same number of shares as Beebe and Chambers held in the voting Class A stock. In effect, the partners had none of their own money invested in their company, but held fifty percent of its capital and one hundred percent of its control, split equally between them. Beebe and Chambers also stipulated in their agreement that they had the right to buy back the non-voting preferred stock at its book value if and when they were able to in the future. They had negotiated a very favorable arrangement for themselves.

Since aviation insurance along British lines was a new undertaking, Beebe and Chambers thought it practical to create two advisory boards, one representing the four casualty companies, and the other providing recommendations on behalf of the four fire companies. They were named the Casualty Advisory Council and the Hull and Group B Advisory Council, respectively. These boards were staffed with representatives from the home offices of each company within the insurance group, and were invaluable in helping keeping the management team on the right path. In his 1944 summation of the company's history, Beebe, in the convoluted prose that typified his manuscript, praised the contributions of these two panels, attributing a great deal of the credit for his company's success to their foresight.⁵⁶

⁵⁶ Beebe never fancied himself a writer, only as an insurance man with the vision to grasp that his company's history would be significant, as it was a pioneer in the American commercial-aviation industry. With typical self-deprecation, he apologized for his odd writing style in the introduction to his company history, *Through Twenty-Five Years*:

For those who may feel that this book represents a vast waste of time, I would like to explain that most of it has been written at odd moments out of business hours. ... [T]he

Should the future prove as we believe will be the case, that the pioneering work of the USAIG has been a worthwhile contribution to the development of aviation insurance, the names of those Home Office executives of Member Companies who have served on the Group's Advisory Councils will become of increasing interest. These men contributed countless valuable suggestions which have influenced the course of the Group and the Managers with their approval adopted and sponsored these suggestions as their own with the result that the Managers have received much credit which is actually due to the individual Members of the Advisory Councils who elected to stand in the background.⁵⁷

Their next challenge in setting up their business was to hire a firm of attorneys.⁵⁸ The two entrepreneurs had given a great deal of consideration to this decision. With commercial aviation still in its infancy, there was a raging debate whether it would follow the legal patterns set by maritime law, or those being developed by automotive law. The partners concluded that, after the Commercial Aviation Act of 1926, aviation would probably follow the path set by maritime law. That decision made, they were then left to decide between the two leading admiralty law firms in New York. They selected Haight, Smith, Griffin, and Deming. The firm appointed Donald Havens as its chief counsel in support of the aviation management company. Havens, first cousin to Beckwith Havens, an early aviation pioneer, had a keen interest in air commerce.⁵⁹ He later was named

greater part of [it] which was initially drafted out in longhand on countless scraps of paper. ... If the book should be considered as just another "white elephant," please forgive us (Beebe, xiv).

He concluded his book with another swipe at his own writing:

USAIG advisory Council members and others who have for years suffered from my unending flow of written words will take heart when they learn that any ambitions that I may have had to become an author died when I read the proof of this booklet. ... With one exception no one has seen any part of this booklet that he did not contribute, and that one friend after reviewing a few sections patiently informed [me] that he considered it terrible and that if it was printed and distributed I would become the "Laughing Stock" of the street and my friends. A pleasant outlook indeed. ... I wonder what Reed Chambers, who has seen none of it, will have to say? He may wish to acquire a new partner; no one could exactly blame him (Beebe, 197).

⁵⁷ Ibid., 6.

⁵⁸ Brennan to White, 10.

⁵⁹ Beckwith Havens joined the Curtiss aerial demonstration team in 1910 (Curtis Predergast, *The First Aviators*, Time-Life Books, Alexandria, Virginia, 1981, 89-90).

secretary of the insurance firm, although his primary duties were to unravel the complex international laws affecting virtually every aspect of aviation. In 1943, Beebe praised his work, claiming "Donald Havens has probably had more intimate acquaintanceship with the problems of domestic and foreign aviation than any other attorney."⁶⁰ Chambers shared his partner's sentiments. In 1967, reflecting on their choice of General Counsel, he stated confidently, "I think we made a good decision."⁶¹

Their companies onboard, their advisory councils and legal team in place, the next item of business was to select a name for their management company and insurance group. Beebe wanted to model the names after those used by the British firms he had visited the previous year – the British Aircraft Insurance Group.⁶² The consortium of insurers would become the United States Aircraft Insurance Group (USAIG), and the management team would be known as United States Aviation Underwriters (USAU). Their names selected, the next order of business was to file the paperwork for incorporation.

Although Chambers found the insurance industry unfamiliar, he had plenty of experience in incorporating.⁶³ He had founded three corporations in the previous four years: the Reed M. Chambers Company, (conducting aerial photography); Florida Airways; and, most recently, the Atlantic Gulf and Caribbean Airways. With that much experience, he found the process simple. United States Aviation Underwriters was incorporated on June 25, 1928.⁶⁴ Chambers recalled later that they were lucky that they filed for their name when they did, since a short time later Congress passed a law

⁶⁰ Beebe, 90.

⁶¹ Brennan to White, 10.

⁶² Chambers, *Reminiscences*, 75.

⁶³ Chambers, *Organization*, 1.

⁶⁴ Beebe, 89.

prohibiting the use of “United States” in any banking or insurance title.⁶⁵ Fortunately, the partners’ business titles were covered by a grandfather clause in the law, which allowed them to keep using them.

Once incorporated, they copyrighted a trademark for use on their forms, stationery, and marketing material. It was a simple device; their corporate name beneath a pair of outstretched wings.



Fig 47. USAU Logo⁶⁶

As the company prepared to begin operations, news of the new enterprise reached the ears of Horatio Barber, of Barber and Baldwin, the same firm that Chambers had approached to insure Florida Airways. Barber was confident his new competitors would fail, claiming that Beebe and Chambers would “burn” their associated insurance companies and retire within six weeks of opening for business.⁶⁷

The next matter was to decide upon their commission and insurance rates. The main consideration in setting commissions was how much the USAU would pay agents and brokers. The partners this with the USAIG’s member companies and decided that ten percent would be the maximum they would pay to general brokers or agents, but fifteen percent would be the maximum paid to bonafide agents of any of the member companies.⁶⁸ This would give the member companies an incentive to pursue more aviation business.

⁶⁵ Chambers, *Organization*, 1.

⁶⁶ From USAU archives.

⁶⁷ Beebe, 93.

⁶⁸ Chambers, *Organization*, 1-2.

Under its reinsurance treaties with London, USAU was to receive fifteen percent profit sharing from those deals. In separate meetings with their Fire and Casualty Advisory Committees, the fire companies agreed that fifteen percent seemed fair. The casualty companies, however, felt fifteen percent was too high and agreed to provide USAU with only ten percent profit sharing.

With their commissions established and accepted by the members of the USAIG, the final order of business before offering policies was to prepare policies, application forms, rate charts, and the other paraphernalia connected with the insurance business.⁶⁹ Setting rates was by far the most difficult of these tasks. With his knowledge of the industry, Chambers surveyed risks, established exclusions, warranties, and set the rates, while Beebe handled the remaining technical matters relating to insurance, including dealing with the reinsurance market.⁷⁰ It was he who pored over the wording of policy agreements, while Chambers went out to bring in more business. This arrangement defined the manner in which the two apportioned work for the remainder of their partnership: Chambers was the front man, vitally involved in the business and science of flying, while Beebe was the details man, keenly attuned to changes in politics and policies that might affect the market or their business in any way. It was an incredibly

⁶⁹ Ibid., 2. The creation of so many forms, policies, agreements, inspection sheets, and other paperwork created another problem for the new company, that of securing a reliable printer. The partners took their work to Frank Mastellone, of Mascon Printing Company, who printed forms for the Pacific Fire Insurance Company. Although many in the firm argued they could find other printers to beat Mastellone's prices, Chambers and Beebe were always satisfied with his service, particularly on short-notice jobs. In the late 1960s Chambers recalled, "It may be that we would have saved a total of a couple of hundred thousand dollars after taxes if we had chiseled and put every contract out to bid, but it still is my belief we would have been out of business if we had done this" (Chambers, *Organization*, 10.)

⁷⁰ Chambers, *Beebe*, 3. Exclusions were those things the company would not ensure. Warranties were things the company required of its operators, both to reduce risk and enhance the safety of the insured's air operation. For instance, USAU included warranties in its policies requiring seat belts on all aircraft seats and the use of those belts on all takeoffs and landings years before a similar requirement was levied in Civil Air Regulations (Chambers, *Insurance for Aviation*, 7).

successful combination, but at first, a tremendous amount of work for the two men. They would need help.

USAU's first employee was Lillian "Jeanne" Rogers. She had been secretary to Beebe's father-in-law, but in the grossly undermanned USAU office, became a "jack-of-all-trades."⁷¹ She was the secretary, receptionist, file clerk, telephone operator, and bookkeeper, to name just a few of her responsibilities. Chambers also reached out to secure the services of Shorty Schroeder. Schroeder, though still committed to his contract with Curtiss, would serve as a technical advisor to the firm. He was not only a test pilot, actively involved with one of America's leading aircraft manufacturers, but also had an intimate knowledge of aircraft safety issues because of his short stint with Underwriters Laboratories. Chambers believed that Schroeder's advice would be invaluable in making risk assessments.

With the preparatory work complete and their staff in place, it was time to go to work. United States Aviation Underwriters, Incorporated, opened its doors on the 17th floor of 80 John Street, New York City, the morning of July 1, 1928. It spent the first few days after opening informally notifying brokers and agents of its existence. Beebe and Chambers wanted to give the insiders information so that they could answer or direct inquiries when their company's first advertisement appeared later in the month. Chambers also contacted his former associates in the airline industry, to offer them his company's services. Almost immediately, Juane Trippe contacted the pair to sign Pan-American.⁷² On the same day, the partners signed up Western Air Express. Almost overnight, business boomed. As Chambers recalled,

⁷¹ Beebe, 90.

⁷² Chambers, *Reminiscences*, 78.

Business just flowed in from all directions, because... there was a complete aviation insurance vacuum – it was a desert. We were the only oasis in the world at that time. London wouldn't touch anything on this side.⁷³

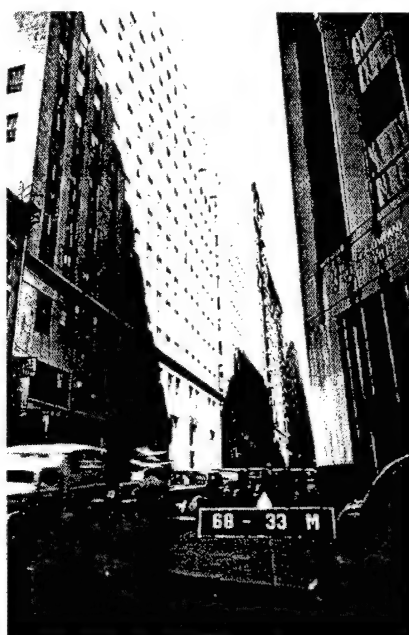


Fig. 48. The Building at 80 John Street (left), as it appeared in 1940.⁷⁴

A short time later, the partners received a call from James Beaha, then the Insurance Commissioner of New York. Beaha's call was confusing, but it seemed to offer USAU his office's full support. Chambers recollected that the conversation was decidedly one-sided, and went something like this:

Well boys, I think that this is a very interesting development, and you can rest assured that the New York Department – regardless of the fact [that] we know nothing about it, we don't know where we can fit it in, [and] we don't know what law will cover it,... we'll do everything we can to make the thing work. We think it's very important.⁷⁵

The partners were undoubtedly pleased by Beaha's call, even if they remained unsure of exactly what he intended to do on their behalf.

Just as the federal and state governments had begun to grasp their role in facilitating and regulating the burgeoning aviation industry, the advent of aviation insurance

⁷³ Ibid.

⁷⁴ New York City Department of Records and Information Services, Tax Department Photograph, "80 John Street," 1940, NYC Municipal Archives.

⁷⁵ Ibid., 79.

precipitated new requirements and opportunities for government intervention. At first, as with Beaha's offer to help, government efforts seemed designed only to understand the industry and insure reasonable risks and profits for those involved. With the onslaught of the Great Depression and a corresponding, growing distrust of large corporations and complex financial arrangements, however, government intervention became increasingly adversarial. This transition in the relationship between the aviation insurance industry and government agencies frustrated the partners for years. In 1928, however, the relationship was still mutually supportive; the partners enjoyed nearly unanimous support.

On July 16, 1928, their official announcement appeared in the *New York Journal of Commerce*.⁷⁶ The notice prompted a flood of mail and telephone inquiries from legitimate customers, those interested in joining the firm, and from people who were just curious about the new industry. As the first group of fire and casualty companies to insure aviation, their firm was very much a novelty.

One of their first prospective employees was Erik Hildesheim, a Dane, who had seen the announcement and dropped by the office to see if he might lend a hand.⁷⁷ Hildesheim was a pilot and engineer, but had also worked with a Scandinavian insurance consortium, writing aviation policies in Denmark. He was in the process of securing American citizenship when he met with Beebe and Chambers, but did not have a work visa. Because a man with both flying and aviation insurance experience was rare at that time, they agreed to take him on in an advisory capacity. They put him to work finalizing their applications, engineering forms, and claim reports. Hildesheim, like Chambers, also

⁷⁶ Beebe, 90.

⁷⁷ Ibid, 91.

visited prospective clients to inspect their operations. He remained with the company for two years, before earning his citizenship and leaving to start his own manufacturing concern in Fairfield, Connecticut.

On August 24th, the new insurance company issued its first policy. Policy Number AF-251 was issued to Canadian Colonial Airways, which was then organizing to begin operations on October 1st. Less than two months later, just nineteen days after commencing operations, Colonial would also file USAU's first claim when one of its planes was damaged in a forced landing at the Newark, New Jersey airport.⁷⁸ Beebe personally signed the check for \$667.75 – the first check drawn on the firm's claim adjustment account – to cover the airline's loss.

Other policies were in the works, including those for Pan-American and Frontier, but they had not yet been issued, since the company was still working to get authorization through the various state insurance departments. In the meantime, they had accepted these airlines' risks on binders.

About the same time that they issued their first policy, the partners started receiving letters from Carl Fisher, a graduate of the Wharton School of Finance, who was then working for the Standard Accident Insurance Company of Detroit. Having seen the announcement in the *New York Journal of Commerce*, Fisher explained that he immediately made up his mind that this was the industry for him. Beebe and Chambers declined Fisher's offer to come to New York, explaining that since he had a family, they

⁷⁸ D. E. Rowland, Chief of Operations at Canadian Colonial Airways to USAU, December 5, 1928. This letter was part of a folder labeled "First Claim" in the USAU archives. In addition to the letter, the folder contained the original canceled claim check, indicating "Check No. 1, Claim No. 1," dated January 3, 1929 and deposited on January 15, 1929. The folder also contained a two-page repair estimate from the Fairchild Manufacturing Corporation, which did the repairs on the airframe. Airframe repairs were \$1,606.37. Engine repairs were subcontracted to the engine manufacturer, Pratt and Whitney, which charged \$561.38. The total cost of repairs was \$2,167.75 which, after the airlines \$1,500.00 deductible, left USAU to pay \$667.75.

did not feel that he should risk joining them in their experimental venture. Fisher was undeterred, launching a letter campaign to the partners. When this elicited no response, he forwarded them a picture of himself, with a hand-written note indicating that he was coming to New York to meet them in person.

On October 22, Carl Fisher arrived to explain to Chambers and Beebe that he was very definitely going to work for them, regardless of the price, because he believed in the future of the business. They hired him on the spot. Fisher began as head of the compensation business for the group, but eventually took on greater responsibilities, including the Accident Insurance, Airport Liability, Products Liability, and a host of other lines offered by the company. He retired in 1965 as Vice President in Charge of Personal Accident and Compensation Underwriting.

On November 8th 1928, in response to an application from Peruvian Airways, Beebe and Chambers approached their advisory boards for permission to provide coverage beyond America's borders.⁷⁹ There were as yet no international agreements governing the operation or insurance of international airlines, so this was a bold step for the pair. The airline in Peru offered the partners something of a test case for international carriers.

Peruvian Airways was to operate between Talara and Callao, Peru, although its headquarters was in Delaware, and the firm was jointly owned by W. R. Grace and Company and Pan-American. The casualty companies had earlier expressed concerns about insuring overseas airlines. In their meeting with the advisory committees, however, the partners explained that the ever-increasing range of aircraft and the growth of international trade made transoceanic air commerce inevitable. If they did not provide coverage, someone else eventually would. The committees' decision to allow the

⁷⁹ Beebe, 91

coverage marked a milestone in the insurance industry. Beebe explained, "this was a momentous decision[,] and for all practical purposes it resulted in taking many American insurance companies beyond the borders of the United States for the first time."⁸⁰

The work was pouring in so rapidly that even with the help of the small staff they had assembled, the partners were nearly overwhelmed. In order to have an experienced insurance man review the forms and policies he created, Beebe had taken many of his products to his former supervisor at Marsh and McLennan, Carl Holmes. Holmes had trained Beebe and was widely regarded as an expert in the industry. Soon, however, Holmes felt overburdened trying to help Beebe while keeping up with his own workload. He offered the services of another protégé, Richard S. Anderson. Anderson had an incredible eye for detail, which so impressed both Beebe and Chambers that they approached Holmes in November, asking him to release Anderson to their permanent employ. Anderson joined USAU on November 27, 1928, eventually rising to become the Vice President and Chief Underwriter of the Corporation. Chambers later recalled that Anderson "turned out to be, in my opinion, the greatest aviation insurance underwriter the world has produced to date."⁸¹ Anderson retired from the firm following a lengthy illness on July 1, 1965.

As their business picked up, the partners soon found they also needed a full-time accountant. They hired a fellow who had been recommended by Andy Collins, one of Beebe's friends from Marsh and McLennan. They quickly learned, however, that the man had a serious drinking problem. Chambers recalled:

⁸⁰ Ibid.

⁸¹ Chambers, *Organization*, 6.

He turned out to be a complete lush; was out days at a time under the influence, and you could hardly stand being in the room with him when he did come in.⁸²

It was apparent to everyone that this man was not going to succeed at USAU. Within a very short time, the partners were looking for another accountant. They polled their contacts and were informed by Harold Junker, of Crum and Forster, that Albert J. Smith was available.⁸³ Smith had just returned from Memphis, cleaning up a mess that was created when a local agent gambled away his collected premiums playing the races.⁸⁴ He was back in New York and looking for work. The work at USAU appealed to Smith, as it seemed new and risky, a perfect opportunity for him to employ his imagination and vision. Conversely, Smith appealed to Beebe and Chambers, not only because of his vast accounting and statistical experience, but also because in meeting him they found a man who exuded calm and confidence. The fact that he did not yet have his CPA did not detract from his obvious abilities. The partners hired him on December 14, 1928. As they expected, Smith was an extraordinarily adept accountant. He managed their ever-expanding accounts and statistics department for years, learning the reinsurance business from Beebe so well that he was able to step in to ensure that this all-important aspect of the business was not interrupted even by Beebe's untimely death, and eventually rose to become the corporation's President. He served in that capacity from 1953 to 1962. His influence was demonstrated remarkably in the case of Jeanne Rogers.

Almost immediately after opening their doors, the aviation insurance pioneers had found Rogers' clerical skills wanting. In his usual blunt manner, Chambers recalled, "it turned out that she was probably the world's worst secretary, both in shorthand and in

⁸² Ibid., 6.

⁸³ Beebe, 92.

⁸⁴ Chambers, *Organization*, 5.

typing, but she developed into one of the choice jewels of all time in the accounting end.”⁸⁵ Rogers talent for accounting was not fully appreciated until Smith joined the firm in December. Working with her on bookkeeping matters, Smith immediately recognized Rogers’ flair for numbers and had her transferred to the accounting department. Though female executives were very rare, Beebe and Chambers were committed to rewarding their employees’ talent, regardless of sex. Rogers continued to excel, taking on ever-greater responsibilities within the company. It is significant that at a time when women were not prominent in the workplace, the fledgling company had a female executive.⁸⁶ Her abilities figured more prominently than her sex. Rogers retired as the Corporation’s Treasurer in 1966.

In addition to sending Al Smith to USAU, Harold Junker was also responsible for the addition of another fire insurance company to the consortium. Following an introduction by Junker, Beebe had negotiated with Lyman Candee and A. H. Whitthohn, of the Globe and Rutgers Fire Insurance Company, for possible membership in the USAIG. They decided to join on December 20th, the first company added since the company was founded.

At year’s end, the partners reflected on their success. They founded the first group-insurance consortium for aviation in American history, collected \$82,195.86 in hull premiums and \$59,268.54 in casualty premiums and had, to date, suffered only minimal losses in terms of claims.⁸⁷ They had also proven Horatio Barber wrong, when they did

⁸⁵ Chambers, *Organization*, 7

⁸⁶ In the author’s interview with Marie Caulfield, Chambers personal secretary from 1947 to 1972, Mrs. Caulfield recalled that Jean Rogers, the company treasurer had been “one of the first women executives ... in downtown Manhattan,” *Interview*, 30.

⁸⁷ Beebe, 93.

not “burn their Companies and retire within six weeks” after opening their doors.⁸⁸ The arrival of a letter that afternoon from C. H. Franklin of the Continental Casualty Company, indicating that Franklin was starting his own aviation-insurance association, did little to dampen the partners’ spirits.⁸⁹

The partners had started their enterprise with little more than a good idea. They had borrowed Bowring’s corporate blueprint for an insurance consortium and had grafted it onto their own corporation, with themselves at the helm. Then they gathered around them a trusted group of loyal employees who shared their enthusiasm for aviation and their desire for success.

Undoubtedly their relationship with their employees reflected the spirit of cooperation that had permeated the Air Service during their wartime experience. They interacted with their employees much as they had approached their fellow airmen during the war, rewarding prowess and building mutual respect. Further, they behaved much as their wartime superiors had: it was unthinkable for a squadron leader to command his pilots’ respect if he was unwilling or unable to share the risks and shoulder part of the workload. No doubt Chambers recalled the poor leadership example set by Marr, as he tried to lead this new team of subordinates.

Another lesson Chambers had taken away from his Great War experience, particularly after seeing Rickenbacker rejuvenate the flagging morale of the 94th, was the importance of personal loyalty. Rickenbacker built a personal relationship with his men that commanded respect and demanded their best efforts. Chambers worked hard to earn that same level of loyalty from his men during the remainder of his service to the

⁸⁸ Ibid.

⁸⁹ Ibid, 92-93. Franklin would serve as Managing Director of the National Continental Aviation Insurance Association.

military. Afterwards, in his civilian pursuits, Chambers continued to conduct business in a way to foster personal loyalty. The length of his employees' service, their commitment to USAIG even when other firms were offering more money, and the manner in which he was praised by employees and business associates alike, throughout his professional life, are testament to his success in developing deep, mutual, personal commitment in many of his professional relationships.

Chambers did not, however, experience the same level of success in all his relationships. In particular, he had recurring difficulties with several government agencies and the bureaucrats representing them. At the beginning of their endeavor, the partners enjoyed a cooperative relationship with those government offices concerned with aviation and insurance. Beaha's call, while confusing, was certainly supportive. There were, in those early years, no specific regulations governing aviation insurance. Chambers and Beebe only had to ensure they and the policies they issued complied with general state insurance requirements. At the time, the relationship between the new aviation insurance industry and its related government agencies was overwhelmingly positive.

The partners also benefited from the growing regulatory relationship between the government and those firms building and operating aircraft. With each new safety improvement, the partners and their member companies enjoyed reduced risks and, consequently, a greater potential for profits. This eventually evolved into a symbiotic relationship between regulators and insurers. To calculate risks more accurately, insurers conducted studies on existing airframes as well as accident investigations, reporting their findings to federal agencies that in turn wrote regulations to eliminate unsafe practices

and designs. By the 1930s, federal inspectors reported safety violations directly to operators' insurance companies.⁹⁰ This was not done specifically for the insurance companies' benefit; inspectors probably concluded that having the insurers involved would prompt operators to emphasize safety in their businesses. Too many violations, or uncorrected discrepancies could result in cancellation of a manufacturer's or operator's insurance policy. The federal notifications benefited the insurance industry in second way, providing them additional information for calculating risks.

Even with the best cooperation, however, no one could reasonably hope to eliminate risk completely. Given the inherent dangers of flying, it was inevitable the fledgling insurers would encounter losses. Additionally, because theirs was a new industry, each loss generated fresh issues that had to be resolved in order to standardize their business practices. The 1930s would prove an important period in the partners' business development, as they met the challenges of a growing, changing industry.

⁹⁰ E. M. Ackerman, "Insurance – Companion of Aviation," *The Weekly Underwriter*, November 21, 1953, 1241, 1244, and 1252. In an interview, Chambers described this era of cooperation, lamenting its subsequent passing.

Chapter 7

United States Aviation Underwriters, The Early Years

On Saint Patrick's Day, 1929, the young insurance company suffered its first catastrophic loss.¹ That Sunday afternoon, a Colonial and Western Airways Ford AT-4 Tin Goose was flying a sightseeing trip out of Newark Airport when an engine failed. Seeking a place to land, the plane crashed into a freight car on the Central Railroad of New Jersey tracks, at the edge of its home field, killing all fourteen passengers. Only the pilot, Lou Foote, survived. The crash reignited a debate that had raged since the earliest attempts at aviation insurance. The managers of many of America's pioneer airlines contended that, because flying was an inherently dangerous undertaking, they should not be held responsible for casualties resulting from their operations. These managers were incensed when their insurance companies settled with survivors and victims' families out of court, especially when the experience of these settlements returned to them in the form of elevated premiums. The counter argument governing aviation liability, employed by both the victims and the insurance companies, was the legal doctrine of *res ipsa loquitor* – the thing speaks for itself, as when a surgical instrument is left in a patient after an operation. As Chambers explained:

We could not see eye-to-eye with this [airlines-not-liable] school, and felt that aircraft operators should accept liability the same as any other common carrier and in no way attempt to limit it in the language of their tickets... We [did] not feel that airline operators should be less responsible for injuries than operators of competing forms of transportation, such as railroads, bus lines, and inland steamship companies. There

¹ Accident and subsequent court case from Beebe, 93 and 150, and Chambers, *Insurance for Aviation*, 12-13.

seems to be no good reason why one should be worth less if killed in a domestic airline accident than in a domestic railroad or auto accident.²

The Newark crash provided a perfect case for Chambers and Beebe to test their understanding of airline liability. They approached the advisory committees and claims departments of their member companies, who agreed to let the courts decide. Standing with their insured airline, USAU lost the suit but proved to both the airline industry and their own member companies that their interpretation of liability had been correct. It was a landmark case, permanently settling the argument over liability. USAU paid \$29,680.06 from its hull section, on an airframe with a declared value of \$49,475. From its casualty section, the company paid \$193,000: \$189,119.09 for passenger liability, and the rest as compensation for damage to property.

In addition to settling liability issues with their member companies, the partners also had to deal with the concerns over their investors. Although they had restricted brokers from having any control within their management company, Chambers and Beebe were still keenly aware that brokers – specifically Marsh and McLennan, and Crum and Forster – still held their non-voting stock.³ The arrangement would prove increasingly uncomfortable as new member companies sought to join their consortium.

On April 1st, the partners were busy at their desks when a large man swept into their offices declaring, “I’m Bigelow of the St. Paul Fire and Marine Insurance Company.”⁴ Although he declared to be interested in learning about aviation insurance, the visitor never once asked about aviation insurance, how much volume the partners were handling, or anything else about the business. Instead, Bigelow explored the partners’

² Chambers, *Insurance for Aviation*, 12-13.

³ From Chambers to Anderson and Smith, 8-9.

⁴ Chambers to Anderson and Smith, 8. F. R. Bigelow.

backgrounds, from Beebe's tenure on the Yale rowing team, to the two men's experiences in the war. After several hours, the trio went to lunch and continued their conversation. As they finished their lunch, Chambers was amazed that the three of them had yet to broach the topic of insurance, and now Bigelow was preparing to leave. Just as he was about to part company with the surprised partners, Bigelow nonchalantly asked, "Well, are you fellows looking for another company?"⁵ Stunned, the pair managed to respond that they were indeed interested in another company. Bigelow asked the partners to send him details of their business, then to come out and see him at his St. Paul headquarters. Then, just before walking off, Bigelow struck his only serious pose of the day, asking about their stock ownership and control. He was adamant that he was not willing to go into anything unless it was controlled by management. Beebe assured Bigelow that he and Chambers were in complete control. Smiling, Bigelow left.

Back at the office, Beebe confessed that although he had been entirely truthful with Bigelow, his conscience bothered him over the preferred stock held by Marsh and McLennan, and Crum and Forster. Even though these firms had no voting rights, he worried that their backing might make it appear that the company was under at least partial control of brokers. The partners agreed to exercise the repurchasing clause of their initial agreement and recovered their stock as quickly as possible.⁶ The move met

⁵ Ibid.

⁶ Chambers approached his friends at Crum and Forster and repurchased the stock for \$25,000. It had appreciated 250% in a year. Beebe was not as successful in his visit to Marsh and McLennan. Herbert F. Eggert, one of Beebe's superiors when he had worked at the firm, was adamant that the brokerage house did not want to sell the valuable stock. Beebe was anguished, fearing USAU would lose Bigelow's company. Marsh and McLennan refused to sell their stock. He turned to his partner for help. Chambers visited the firm's elder partner, Mr. McLennan, on a visit to Chicago, believing he would stand by the initial agreement and overrule Eggert. After explaining the situation, McLennan turned to a subordinate and said, "When we put money in this, we kissed it goodbye – we agreed to let the boys buy back the stock when they could, and if they can do it, sell them the stock." He went on to praise the partners for their remarkable success. Beebe was elated to learn of Chambers' success in Chicago, but found Eggert

its intended objectives. It was with a clear conscience that Beebe and Chambers signed the St. Paul Fire and Marine Insurance Company, their second new fire company since establishing their group.

As they standardized their practices, the partners also had to remain current on the latest innovations in aeronautical science. For Chambers, this became something of a personal crusade. He had entered this venture to help get commercial aviation started; he would continue to use his position to advance aviation technology and science for the good of the entire industry. Late in the summer of 1929, he got an opportunity to do just this.

The Guggenheim Foundation, formed in 1925 to promote commercial aviation, was working with the Air Corps to solve the problem of blind flying.⁷ At the Full-Flight Laboratory, set up at Mitchell Field New York in 1928, in a space provided by the Air Corps, Guggenheim-funded engineers were perfecting ways for aviators to navigate in fog and at night.⁸ The Air Corps also provided the Laboratory with some personnel to aid in the research: First Lieutenant James H. Doolittle, a pilot with considerable education and experience in engineering, was assigned as the head of the laboratory and its chief test pilot; Second Lieutenant Benjamin S. Kelsey was provided as a flight assistant; and Captain Jack Dalton served the laboratory in his capacity as an aviation mechanic. The group approached USAU for insurance to cover the project.

somewhat embarrassed that his boss had overruled his decision. Although the two had been friends before this incident, and Beebe praised Eggert in his 1944 company history, the relationship cooled after the stock sale. The two were never particularly friendly afterwards. (Chambers to Anderson and Smith, 8-9; quote from page 9.)

⁷ Beebe, 132.

⁸ Details of the tests from Mauer, *Aviation in the U.S. Army*, 277-278.

At first Beebe was opposed to insuring the experiment. A conservative businessman, he was worried not only about protecting his investors' capital, but also about how USAU's reputation might suffer in the event of an accident. They might be accused of behaving irresponsibly in covering the risk. Chambers, however, took a different view. He insisted that USAU should take the risk. If aviation could not overcome darkness and bad weather, he argued, it would never progress. What was best for aviation was, in the long run, best for USAU and its investors. Chambers was probably energized on this particular topic by his own experience with blind flying during the war. The fear he felt as he dived through the thick fog onto the vineyard near Issoudon undoubtedly helped motivate him as he argued for covering the risk. Beebe eventually agreed and the partners informed Full-Flight Laboratory that USAU would provide the coverage.

At Mitchell Field, Doolittle and his team installed a series of instruments into a Consolidated NY-2, a dual-control biplane, to test their views on blind flying. An altimeter from the Kollsman Instrument Company would inform the pilot of his altitude.

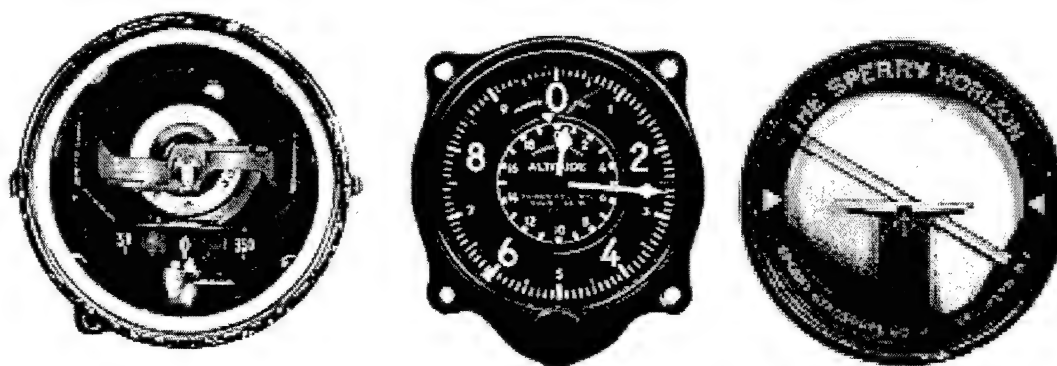


Fig. 49. The Instruments Employed in the Blind-Flying Test.

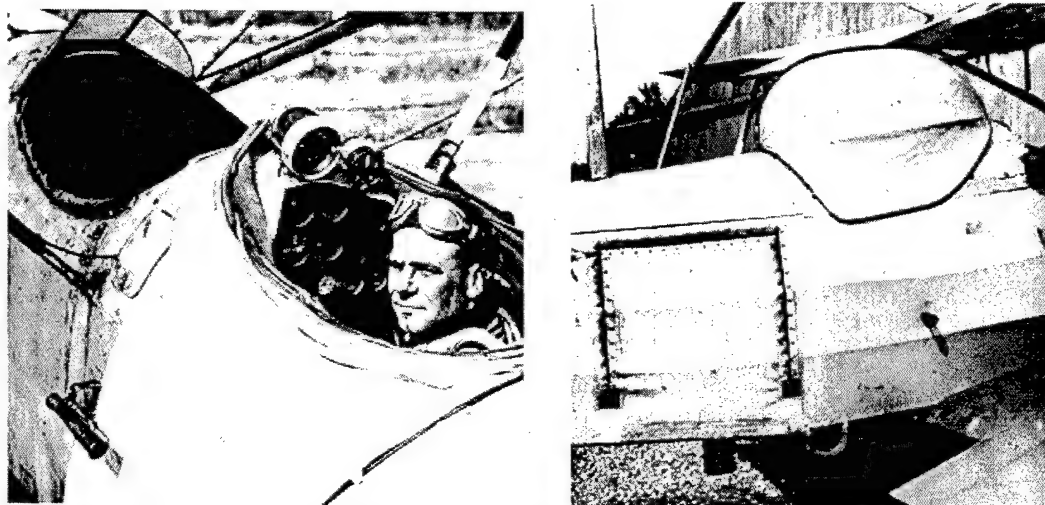
L-R: The Sperry Directional Gyrocompass, the Kollsman Precision Altimeter, and the Sperry Horizon⁹

An artificial horizon and a directional gyroscope, both produced by the Sperry Gyroscope Company, would let Doolittle know if he was climbing or diving, and in which direction

⁹ David Nevin, *The Pathfinders* (Time-Life Books, Alexandria, Virginia, 1980), 149.

he was headed. Lastly, some radio equipment, complete with homing-range and marker-beacon indicators, would keep the test pilot apprised of his relative position at all times.

Doolittle conducted a number of tests with these instruments. Zipping himself under a hood, with Kelsey along to act as a backup, Doolittle practiced taking off, flying, and landing his plane without relying upon his vision. When he believed he had perfected the techniques he would use, he was ready for a full test.



Figs. 50 and 51: Jimmy Doolittle behind his instrument panel, and with the blinding hood installed.¹⁰

On September 24, 1929, Mitchell Field was shrouded in fog, making the hood unnecessary. Using only his instruments, Doolittle took off, climbed to five hundred feet, circled the runway, and landed again. A little later, as the fog was lifting, he wanted to go up again, this time under the hood. He wanted this to be a solo flight; however, Harry Guggenheim, a former Great War pilot himself, was concerned that other aircraft might be in the vicinity and insisted that Kelsey go along. Zipping the hood over his head, Doolittle warmed up his engine, taxied to line up with the radio beacon, and took off. He climbed to a thousand feet, turned 180 degrees, flew for ten minutes, then turned around again to line up on the field's beacon. He gradually descended, holding at two hundred

¹⁰ Nevin, 148.

feet until his marker alerted him he was over the field, and then he set the plane down. He recalled later that his approach and landing had been “sloppy,” but he remarked, “It was the first time an airplane had taken off, flown over a set course, and landed on instruments alone.”¹¹ It was also the first of many pioneering experiments USAU insured in carrying out its founders’ vision to support aviation science and technology.

A little over two months later, on November 27th, 1929, Chambers rejoined some of his old friends when Doug Campbell, Alan Winslow, and Jimmy Meissner all happened to be in New York at the same time.¹² Learning of their visit beforehand, Chambers had invited Eddie Rickenbacker and John DeWitt, another former member of the 94th Aero Squadron, to meet him and the fellow Hat-in-the-Ring veterans for lunch at the Block Hall Club. The Block Hall Club was a favorite of Chambers’, and the site of all the USAIG advisory committee meetings since the founding of the group the previous year.

At the time of this impromptu reunion, Rickenbacker was Vice President in Charge of Sales for the Fokker Aircraft Company, which had recently been taken over by General Motors.¹³ In June of 1929, Charles E. Wilson, vice president of General Motors in charge of aviation activities, had invited him to New York to take the position. Rickenbacker abandoned his job at Cadillac immediately, eager for the opportunity to get back into aviation. He arrived in New York with his family a short time later.

The largest and most expensive plane in the company’s lineup at that time was the Fokker F-32. It was huge for its day, capable of carrying thirty-two passengers and boasting four engines, two set in tandem on each wing. It was an odd arrangement, one

¹¹ Quoted in Mauer, *Aviation in the U.S. Army*, 278.

¹² Reunion described in Beebe, 97.

¹³ Rickenbacker, *Rickenbacker*, 178.

that was complicated by a distinctive flaw in the engines' design. Rickenbacker explained:

They had an unfortunate habit of blowing the cylinder heads off. When that happened in one of the forward engines, the cylinder head would usually fly back into the propeller of the rear engine, which would throw it [the cylinder head] in any direction. A friend of mine was riding on one of those big planes between San Francisco and Los Angeles, when he saw the cylinder head go hurtling past his nose, through the cabin, and into the engine on the other side. There went three of the four engines right there.¹⁴

At his luncheon with Chambers, Rickenbacker kidded his old friend about the high cost of aviation insurance and the large profits he and his underwriters were scooping in, from their premiums.¹⁵ He joked that perhaps his company could alter USAU's good fortunes by presenting them with the loss of one of their F-32s. A short time later the telephone rang. Ironically, it was Rickenbacker's office calling to report an F-32 had crashed at Long Island.

The plane, still owned by Rickenbacker's company and insured through the USAIG at the time of the crash, went down at Carle Place, Long Island. Upon impact it burst into flame, starting a fire which spread to consume several structures in the immediate vicinity. The hull loss paid was \$81,346.80 – the largest hull settlement that would be paid out by the company until 1938.¹⁶ USAU's fortunes had been altered, but not catastrophically.

At the end of 1929, the partners reviewed their operations to date. Despite the stock market crash, which hit the aircraft manufacturing industry harder than it did aviation insurance concerns, they looked back on a very successful year.¹⁷ Their net premiums in

¹⁴ Ibid.

¹⁵ Beebe, 96-97.

¹⁶ Ibid.

¹⁷ Impact on manufacturing: Rickenbacker, *Rickenbacker*, 179. The reduced impact on aviation insurance can be explained as follows: As aviation insurers insured completed airframes, the October market crash would have a delayed impact on their firms. The slow down in manufacturing would reduce the amount of

hull policies were \$1,089,003.21, and in casualty insurance, \$577,073.20.¹⁸ In addition to an increased customer base, they had added two additional fire companies and another casualty company, and had expanded their staff accordingly. Yet despite their success, the pair remained concerned over the state of American aviation.

In looking over the industry, the partners concluded that too many operations were fundamentally unsound. Although they felt obliged to make a satisfactory profit for their member companies, as well as for their supporters in the reinsurance market, Chambers and Beebe also felt a responsibility to aviation itself. They decided upon a new policy to guide their underwriters' decisions: USAU would not ensure anything, regardless of its profitability, that did not promote the safe progress of aviation.¹⁹ Putting it another way, they would not use their facilities to profit the group if in doing so they detracted from the progress of aviation. As a result of this policy, many stunt flyers, barnstormers and aerial flying circuses, even those with long track records for safety, were denied coverage. Further, they decided not to accept any hull risks in excess of \$10,000.00 unless that hull was part of larger fleet. In effect, they placed their company on a most conservative footing in determining coverage, while maintaining their commitment to furthering the aviation industry. In the years ahead, they and their company would repeatedly demonstrate their support for aviation by covering aeronautical experiments, as they had insured Doolittle's blind-flying work, by taking on risks involving commercial and military prototypes, and by covering trailblazing air journeys. As Chambers explained in 1944:

new business they would write, however, they could continue to ensure existing planes, so long as the airlines remained in business.

¹⁸ Beebe, 97.

¹⁹ Ibid.

We believed the first fundamental in underwriting was to follow the fortunes of individuals whom we knew to be sincere in their desire to aid in the development of American aviation. We thought then, and we still do, that sound management is the most important factor upon which to lay our bets. ... We have consistently refused to insure flights which, in our opinion, were being made only for the personal aggrandizement of the individual or individuals involved.²⁰

Their conservative approach to risk assessment balanced against their commitment to aviation was a winning combination. It would guarantee that their company stayed on the cutting edge of American aeronautical innovations for years to come. For Chambers and Beebe, it provided the added personal benefit of keeping them vitally involved in all aspects of aviation. Although Chambers already had hundreds of acquaintances in the industry; his position at USAU expanded his contacts and introduced him to the rising faces in American aviation.

Chambers' relationship with one aviation entrepreneur grew out an incident in 1929.²¹ During the year, USAIG had paid a total loss on two aircraft, of the same make, within a short period of time. Neither plane had been destroyed, however: in both cases the owners wanted to replace the planes instead of repairing them. Consequently, USAU acquired the damaged planes as salvage. They had accepted a few bids for the salvage craft, but so far had taken no action to divest themselves of the planes.

Some time later, a young man came to see Chambers claiming he and his partner were starting an airplane repair shop on Long Island. They had seen the two damaged planes and felt that they could be repaired. They wondered if they might be given the chance to repair the planes, sell them, and split the proceeds with USAU. The man's faith in his abilities convinced Chambers. He signed the two planes over to the new repair firm on condition that USAU would keep half the difference between their largest

²⁰ Chambers, *Insurance for Aviation*, 7.

²¹ Ibid, 10-11.

salvage bid and the sale price. The young man agreed and left the office. The mechanic was as good as his word. He and his partner repaired the planes and managed to make a profit of several thousand dollars, both for themselves and USAU, on each airplane.

Later, the same mechanic returned to Chambers' office to offer a second proposition. He and his partner had taken the profit from the repair jobs and sunk it all into an experimental plane they had built for the Navy's consideration. The man explained that the design was radically different from previous designs, as it featured an all-metal wing skeleton covered in fabric. He then confided in Chambers that he and his partner had every cent they owned invested in their plane, and if anything were to happen to it, they would be ruined. At that, the mechanic started listing reasons why the insurance executive should not insure his plane, arguing that if he were in Chambers' shoes he would certainly not take the risk. Chambers sat baffled as the man concluded his short presentation with a supplication: if there was any way that USAU could provide coverage for his plane, he and his partner would certainly appreciate it. As Chambers recalled:

It so happened that we had recently quoted rates – on a plane of somewhat similar design and containing the same metal wing structure – for an old established manufacturer. The honesty and sincerity of this gentleman so impressed me that I told him exactly what we had done for the large manufacturer, and that because of our confidence in him and his partner, we would give them the same coverage at the same rates. Fortunately, the plane flew and was successful, leading to a contract for a considerable number [of planes].

Today [1944], these same men are among America's largest aircraft manufacturers. You see the names of their well-known types, the Wildcat and the Hellcat, in the newspapers every day. The men were Roy Grumman and Jake Swirbel, and unless we or someone else had furnished insurance during their early struggles, it is highly improbable that the outstanding contribution the great Grumman Aircraft Engineering Corporation has made to the winning of this war would have been possible.²²

Their early support for Roy Grumman reflected the insurance partners' commitment to American aviation. In instances where they did not feel a particular risk benefited

²² Chambers, *Insurance for Aviation*, 9-10.

aviation, they were just as apt to deny coverage, even at the risk of offending the leading lights of their own member companies.

Late one evening in 1929, Howard Bland of USF&G called to ask Dave Beebe for a favor.²³ Bland was upset because one of his firm's most important clients, Texas Oil, had complained about the difficulties his insurance broker was encountering in his attempt to purchase coverage from USAU. Reflecting their bosses' conservative management policies, the underwriting department explained to the broker that they could not insure Texas Oil's small fleet of industrial-aid aircraft until it first met USAU's stringent conditions. The Texas Oil president, aware of Bland's connection to USAU, called to complain. Apprised of the conflict, Bland assured his important client that he would call the USAU's president personally, to intervene on Texas Oil's behalf. On the phone Bland asked Beebe if he might bend the rules to meet the requirements the broker had received from Texas Oil.

Aware that he was speaking directly to the man who had brought in three of their casualty companies, thus making his own corporation possible, Beebe nervously laid out his position. While it might be in the USF&G's best interest to bend their rules, he explained, it would not be in the best interest of the remaining members of the group. Bland erupted, threatening to withdraw his company from the USAIG as soon as possible, then hung up.

Shaken, Beebe called Chambers at home: "Well, I've wrecked the group!" he began, and then told the rest of the story.²⁴ Chambers consoled his friend, assuring him that he had done exactly the right thing and the only thing he could do under the circumstances.

²³ Chambers to Anderson and Smith, 9.

²⁴ Ibid.

He was quick to add, however, that regardless of the soundness of Beebe's position, the company was in for a rough time.

The following morning, Beebe was told that Bland was on the phone. With great trepidation, he picked up the receiver and greeted the insurance magnate politely. Bland had thought the matter over during the night and realized that Beebe had done the right thing. He added that if the partners would continue managing their company in the same fashion, that he was sure USAU would be very successful. Beebe rushed in to share the news with Chambers; they were overjoyed.

A similar incident occurred a short time later, when Elmer MacLeod, of the New Amsterdam Casualty Company, called to complain to Chambers that USAU's underwriters had declined to quote rates for a customer in Dallas, Texas.²⁵ The customer was the son-in-law of an automobile dealer, who had become very interested in aviation and decided he would make his living as an airplane salesman. He took a Stinson on account and acquired a limited commercial license so that he could take customers up to show them the plane. Chambers explained that because the pilot had only fifty hours of experience, his company could not insure him to carry passengers. He went on to tell MacLeod that his people had done exactly the right thing and that under no circumstances should this lad in Texas be allowed to carry passengers until he acquired a great deal more experience. MacLeod grew upset, accusing the insurance executive of being stubborn and unreasonable. It was no use, however, as Chambers would not budge from his position. The conversation ended and nothing more was said on the matter.

Two years later, however, Chambers was having dinner with MacLeod when the topic arose again. MacLeod admitted that he was very embarrassed about the situation,

²⁵ Ibid., 10

but proceeded to tell the rest of the story. Because of New Amsterdam's long-time connection with the automobile dealer, they had decided that they would write the son-in-law's aircraft risk on their own. They wrote a large liability policy, with compensation, but never mentioned it to USAU or the other casualty companies in the USAIG. A few weeks after writing the policy, the young man crashed the Stinson, killing himself and two passengers. MacLeod confessed that the New Amsterdam had "paid through the nose."²⁶ He ended the story by exclaiming, "You may rest assured we will never – and I mean never – undertake to tell you how to underwrite aviation insurance."²⁷

Another aspect of the company's commitment to aviation was unveiled in February 1931, when USAU announced its Glider Program.²⁸ Beebe and Chambers believed that gliders offered a means of generating interest in aviation, particularly among America's youth. In an alliance with Eddie Rickenbacker, Charles Lindbergh and Casey Jones, the partners committed their firm to the nationwide program.

The Glider Program was to consist of small glider organizations, established all over the country. Each organization was to be under the supervision of a licensed glider pilot, and each would have the opportunity to purchase a glider kit for its members' use. Chambers and his partners in this effort had contacted Albert Hastings, a leading glider pilot of the day. Putting Hastings on the USAU payroll, they used his expertise to guide their selection of glider kits, to link interested groups to qualified glider pilots, and to prepare a manual on gliding.

USAU covered the cost of printing the manual, which it in turn gave away to anyone who wrote to ask for a copy. The company also underscored its commitment to the

²⁶ Ibid., 10.

²⁷ Ibid., 10.

²⁸ Beebe, 101-102.

program by buying a glider for its employees' use. Despite their high hopes for it, the program never caught on as the partners had hoped. Fear of injuries led many to eschew the sport and undermined support from potential backers. Many Americans were too preoccupied with the ongoing depression to contemplate taking up a new hobby. Within a few months, the partners decided to end the effort. Seeing that his skills were no longer needed, Hastings left the firm for a flying job. Although the Glider Program was short-lived, Chambers and Beebe continued to receive requests for their guide to gliding – from all over the world – for years afterwards.

Beebe, later made aware of how important Germany's glider program had been to that nation's acceptance of and support for aviation, lamented that his company's program had not been better received. He pondered this in his corporate recollection,

Through Twenty-Five Years:

No one can visualize what progress aviation might have made if this program could have been adopted as initially conceived... As we all now know, the Germans continued their glider program, developing it into the construction of large troop carriers which, following the invasion of Crete in the present war, was a plan the world was obliged to hastily adopt. Would our program, had it been continued, have saved lives, money, and time?²⁹

Another program the partners initiated was received more favorably. In late 1931, F. Trubee Davison, then Assistant Secretary of War for Aeronautics, approached the partners with his concerns over obtaining insurance for Army pilots. Davison had contacted a number of insurance companies, but had been rejected by each one. Chambers and Beebe felt they could help. They asked Davison for a detailed accounting of the Army's flying records. In particular, they wanted detailed descriptions of every aerial mishap during the previous five-year period. Davison gave them the information.

²⁹ Ibid., 102.

After poring over the Army's records, the partners concluded they could offer coverage on an optional basis, payable through allotments from military flyers' paychecks. The policies covered air crewmembers against normal, peacetime aviation accidents.³⁰ When Admiral William A. Moffett, Chief of the Navy's Bureau of Aeronautics, learned of the program, he too contacted the partners to obtain similar coverage for Navy flyers.

Faced with a huge influx of new military customers, the partners decided to open a branch office in Washington D.C. to house their new Service Accident Department. They secured the services of Major E. H. Brainerd to serve as the Chief of this new department. Brainerd was uniquely suited to the task. He had started his career as an Army pilot, transferred to the Navy, then transferred again to the Marine Corps, ending his career as the Chief of the Marine Corps Air Service. He was lured away from the service by C. M. Keyes, head of the Curtiss-Wright Corporation to head the Curtiss-Wright Flying School. Under Brainerd, this became "the largest aviation school, sales distributor, and fixed-base operator in the United States."³¹ At its zenith, the organization boasted 3,000 students and 750 airplanes, all insured through USAIG. The depression ravaged Curtiss-Wright's flying operations though, forcing it to drop all but its manufacturing concerns. The school was closed and Brainerd found himself looking for work. With his vast experience – particularly the fact he had flown with all three branches of U.S. military aviation – he was a superb choice to run the new USAU office

³⁰ Ibid., 122.

³¹ Ibid.

in Washington. His affiliation would last until January 1941, when the worldwide hostilities forced USAU to curtail the entire class of business.³²

As the Glider Program clearly illustrates, Chambers and Beebe were not content to confine their efforts to the insurance industry. They believed that their position afforded them a unique opportunity to champion aviation to the American public as well as to make improvements within the aviation industry. Sensing that many in the industry still had a somewhat cavalier attitude towards safety – an “anything-to-get-the-job-done outlook” that had become pervasive during the war – the partners began a personal crusade to promote a new attitude within the aviation industry. They began by acquiring the services of an aviation writer. Cy Caldwell, who had flown the floatplane from Key West to Havana to inaugurate Pan-American’s route into the Caribbean, was a specialty writer for *Aero Digest*, but was loaned to USAU specifically to support their safety campaign. He spent the last months of 1929 helping the company with the opening salvos of a barrage of safety information that would continue for years. Beginning in early 1930, the partners flooded the industry with direct-mail letters and pamphlets to promote a “safety-first attitude.” Their missives were targeted at all tiers of the industry, “from president to grease-monkey,” reinforcing the their creed that “Safety Will Insure

³² The coverage was originally intended to cover only peacetime accidents. Because of the widening war, it became increasingly difficult to discern which accidents or missing airplanes were the result of hostilities or actual accidents. Military personnel were stationed at remote locations around the world, often near hostilities. Other personnel were actually working alongside foreign flyers engaged in combat operations, serving as observers. As Beebe explained,

The spread of the war and the certainty that we would eventually become involved made it necessary to restrict Service Accident policies and curtail a class of business which had served a useful purpose and had been deeply appreciated by the Army, Navy, and the Marine Corps (Beebe, 122).

Brainerd left the company when the Service Accident coverage was curtailed.

Aviation's Prosperity."³³ A short time later, they decided that in addition to their direct-mailing campaign, they needed an industry journal to spread their message. On June 18th 1930, USAU published the first issue of its new periodical, "Sky Lines," devoted to aviation insurance and safety.³⁴ Reginald W. Whitney served as the first editor for this magazine.

Despite their efforts to increase their direct contact with members of the aviation industry, the earliest beginnings of USAU's safety campaign can be traced back to their insurance warranties. Chambers recalled that his old friend Bill Stout, the man who had designed Florida Airways' AT-2s, used to argue about USAU's requirement that passengers wear seatbelts during takeoffs and landings, and that pilots wear them all of the time.³⁵ Stout felt the belts added to the passengers' fear factor, discouraging them from making return trips. Chambers countered that his company's experience proved that many minor accidents were fatal when belts were not used. The Department of Commerce later reached a similar conclusion, mandating seatbelt use on airlines.

Another aspect of the partners' safety program was a nationwide series of lectures. These lectures, almost invariably delivered by Chambers, covered aviation safety: lessons learned from accidents, as well as insurance issues. They were very well received. The first of these talks was held under the auspices of the Insurance Society of New York, on Valentine's Day, 1930. Chambers was slated to speak in the board room of the New

³³ Ibid., 9. The Safety Campaign's first mailing was a letter signed by Dave Beebe addressed to 603 executives in the aviation industry. The letter explained the purpose of and plans for the Campaign and was mailed on January 15, 1930. On January 24, Chambers signed letters to 874 superintendents and managers of aircraft operations, including mail, passenger, and express services, as well as flying and mechanics' schools. On February 1, the firm mailed 8,800 letters, bearing Chambers' signature, to American pilots - 86% of all registered pilots. (At the time of this mailing there were 10,215 licensed pilots in the United States.) This was followed on February 4 with another letter from Chambers, addressed to 7,600 aviation mechanics.

³⁴ Beebe, 100.

³⁵ Ibid., 8.

York Board of Fire Underwriters, but because of advance interest in the presentation, it was moved to the great hall of the New York State Chamber of Commerce building, at 65 Liberty Street. More than 400 people attended the lecture. At the time, the Society reported it was the best-attended educational presentation they had ever sponsored. In his talk, Chambers shocked his audience by admitting that aviation premiums were too high, but explained that only a reduction in the number of accidents would reduce these costs.

Although he was flying less, Chambers found that he was very happy in his role as an insurance executive. He was able to apply his extensive background in aircraft operations and management to remain vitally involved in the aviation industry he loved so much. Further, unlike his experience at Florida Airways, he was finally making a comfortable living. He, his wife and two daughters had taken up residence on East 39th street. Polly, the eldest daughter, recalled fondly the window-shopping expeditions that she, Sally, and her mother would make up and down the busy sidewalks.³⁶ As Chambers sat with his wife in the evenings, watching their girls roller-skating in Central Park, he must have reflected on how far he had come. These quiet evenings among the brownstones, small shops, and office buildings, with the girls laughing and playing, were nothing like his early years in LaHarpe. Instead of burning jets of propane and the wild cacophony of gas-powered sirens and horns, here there were soft, electric streetlamps, the quiet rumblings of traffic, and the occasional whisk of the subway passing nearby. From his blue-collar roots, through the crucible of war and the strain of his past failed business ventures, Chambers had finally achieved the success he always craved, while his wife was beginning to enjoy the genteel life for which she had longed.

³⁶ Author's interview with Polly Ackerly, Chamber's daughter, March 25, 2002, 13.

Despite the vast changes around him, however, Chambers remained very much the same man he had always been: personable, but extraordinarily blunt; stubborn but open-minded; passionate about his family, friends, ideals, and personal pursuits; and keenly interested in the world around him. His fascination with the world was clearly evident in his choice of reading materials.

Among his office materials left at the time of his death, this author found works of art and literature, books on building telescopes, references on building and flying gliders, a book on rocket propulsion and stratospheric flight from the nineteen-thirties, as well as recent works on space and rocketry. Many of these were annotated in Chambers' own hand, indicating sections of particular interest or questions he had on the material. In addition to his office collection, the list of books accompanying his estate inventory revealed a tremendous library, encompassing art, literature, science, politics, and history.³⁷ Alongside classics by Hemingway and Steinbeck were works by Sigmund Freud, Winston Churchill, and Teddy Roosevelt. He had autographed copies of works by people he had met – Charles Lindbergh, Harold Hartney, and of course Eddie Rickenbacker – and tended to focus reading, as he had focused his life, most specifically on aviation in all its forms.

Coworkers recalled that very little in the human experience escaped his interest. Pat Vallone, who worked under Chambers for over twenty years, recalled his boss' penchant for learning new things:

One of our insureds, whom I had a relationship with – I'd been involved with insuring his fixed-base operations because I was the underwriter on it, became somewhat involved in the preliminary studies for the space shuttle. And when Reed Chambers found out about it, he asked me to bring him in sometime, which I did. The man came in

³⁷ "Estate of Reed M. Chambers – Books," undated, attached to correspondence, Marie Caulfield Martinez to Royal Frey, Curator of the Air Force Museum, Jan 9, 1973, from the personal collection of Marie Caulfield Martinez.

to visit here in New York, and I put the two of them together and they really had a ball. I don't know what became of the discussion, but Chambers thanked me and said, "I learned a little bit more about what's going on in that area." And this was after he had officially retired from the company; it was after 1968.³⁸

Chambers was interested in almost everything and, despite the fact that he never finished high school, remained a voracious reader and eager student all of his life.

The breadth of Chambers' reading served him well in unraveling the mysteries of an industry that seemed both dependent on and restricted by the three pillars of finance, law, and technological innovation. Development in any one of these three areas seemed to have ramifications in the other two. One major development in the 1930s related directly to the St. Patrick's Day crash of 1929: limits on carrier liability for passengers.

As early as 1923, the French government had proposed an international conference to discuss the limits of liability for international flights.³⁹ In response, the First International Conference on Private Aerial Law was held in Paris in October of 1925. Seventy-six delegates representing forty-one nations arrived to take part in the conference. The United States, not only because it was somewhat behind the European powers in terms of air travel at that time, but also because aircraft range limitations made international travel a less feasible undertaking, did not take part.

The Conference considered a number of issues, deciding ultimately to select a body of technical experts to hammer out a series of conventions affecting various aspects of commercial aviation. This body, called the *Comité International Technique d'Experts Juridiques Aériens* (International Technical Commission of Experts in Air Law), or the

³⁸ Vallone Interview, 3.

³⁹ George W. Orr, "The Warsaw Convention," *Virginia Law Review*, Volume XXXI, No. 2, March 1945, 423-437.

CITEJA for short, drafted twelve conventions for international consideration.⁴⁰ The United States did not participate in the CITEJA's work until 1935, but did send observers to earlier meetings. The first of the CITEJA's conventions, on passenger liability, was adopted by representative governments from around the world at a meeting in Warsaw in 1929. From this meeting it drew its name, the Warsaw Convention.

In addition to its acceptance by most European powers, the Convention was adopted by a few Latin American nations as well. The United States Senate ratified it on June 15, 1934, forwarding it to the President for his approval, which was granted on June 27th. The Convention went into effect on October 29th of that same year.⁴¹ Since USAIG "covered practically all international transportation by American aircraft," at that time, the Convention was of particular interest to Beebe, Chambers, and their company.⁴²

The Convention imposed a standard liability on the airlines of 125,000 gold francs, or approximately \$8,300.00 per passenger. This was considerably less than the airlines would have had to pay had there been no international convention, especially since those taking international flights tended to be the wealthier members of their nations' societies. Between the time it went into effect and 1943, USAU handled more than 100 claims involving the Convention. Not once were the Convention's liability limits exceeded.

⁴⁰ The twelve conventions were: I. Liability to Passengers and Shippers; II. Liability for Territorial Damage; III. Liability for Collision Damage; IV. Registration of Aircraft; V. Mortgages of Aircraft; VI. Attachment of Aircraft; VII. Aircraft Commanders' Authority; VIII. Aircraft Personnel's Contract of Employment; IX. Salvage at Sea; X. Salvage on Land; XI. Lessors' and Lessees' Relative Responsibility; and XII. Interpretation and Application of These Conventions (*Ibid.*, 424).

⁴¹ Beebe records the Convention was passed on June 15th and went into effect on July 1st. That may have been the President's intent, however, Orr points out that under the specific terms of the Convention, it would not go into effect in a subscribing nation until ninety days after the governing body in Warsaw was notified of a nation's desire to comply. The United States' notification reached Warsaw on July 31st. Ninety days later was October 29th (Orr, *Warsaw Convention*, 426).

⁴² George W. Orr, "International Aviation Treaties and Conventions," included in Dave Beebe's *Through Twenty Five Years*, 29.

Interestingly, the Convention contained an exemption, in its Article 20, which ran contrary to the doctrine of *res ipsa loquitor* to which USAU and other aviation insurers already enthusiastically subscribed. Specifically, the Article read:

Exemption – All necessary measures taken – Impossibility

- (1) The carrier shall not be liable if it proves that it and its agents have taken all necessary measures to avoid the damage or that it was impossible for it or them to take such measures.
- (2) In the transportation of goods and baggage the carrier shall not be liable if it proves that the damage was occasioned by an error in piloting, in the handling of the aircraft or in navigation and that, in all other respects, it and his agents have taken all necessary measures to avoid the damage.⁴³

Thus, in international flights, airlines were protected from paying damages when their planes and passengers were lost through acts of God. Soon Chambers and Beebe would have ample reason to recall this guidance, as they began to handle one of the most famous and unique claims in their insurance careers.



Fig. 52. The Hindenberg explodes into flame on May 6, 1937 over Lakehurst Field, New Jersey.⁴⁴

⁴³ Quoted in Orr, *Warsaw Convention*, 430.

⁴⁴ United Press International photograph, republished in Josephy, 273.

At 7:25 on the evening of Thursday, May 6, 1937, the airship *Hindenberg* was docking at Lakehurst, New Jersey when a spark of static electricity ignited bladders of hydrogen within the hull, creating a phenomenal explosion.⁴⁵ Of the thirty-six passengers and sixty-one crewmembers on board, thirteen passengers and twenty-two crewmembers were killed. The airship, officially designated LZ-129, cost its builders some four million U.S. dollars and took almost five years to build. In seconds, however, it lay in ruins, a flaming hulk of charred aluminum and motor parts.

Although USAIG provided no coverage for the airship, neither directly nor through reinsurance, the company was contacted via telegraph on Friday, to assist the European insurers with the settlement. As he started to investigate the matter, Beebe learned that the insurance covering the airship's hull, passengers, cargo, and crew was carried primarily in the London and German markets, although the Germans had facultated about eighty percent of their coverage back to London as well. Beebe later learned that an American company had picked up a very small percentage of hull reinsurance, though this was not held by any of the three leading aviation firms. It was important, both to Beebe and to the agents overseas, that he approach the task at hand objectively.

Captain Lamplugh, of the British Aviation Insurance Company (formerly the British Aviation Insurance Group, from which Beebe had devised the name of his own insurance consortium), cabled Beebe directly to explain that he was "heavily involved in the *Hindenberg* crash with respect to all forms of coverage."⁴⁶ He asked Beebe to represent

⁴⁵ *Aviation Insurance News*, Vol. 28, No. 2, April/May 1997 (USAIG Publication), 1-2. This publication, the follow-on to USAU's *Sky Lines* is designed to appraise aviation personnel of risks and safety concerns. This article was primarily focused on tests conducted with original Hindenberg-era zeppelin skins that revealed that the static-electricity explanation first conjectured in the joint US-German accident report published in 1937 remained the most plausible explanation for the disaster.

⁴⁶ Dave Beebe, USAIG Hull and Casualty Memorandum #34, May 11, 1939, USAU archives, 1.

the British Group by attending all hearings and inquiries related to the crash, and to take any other actions deemed necessary to protect the interests of the British company.

Beebe responded immediately, suggesting Lamplugh contact the other insurers affected so that they could agree to have USAIG represent them all in the matter.

There were two reasons that USAIG was contacted to handle the *Hindenberg* disaster.⁴⁷ First, the company was a member of the International Union of Aviation Insurers. This group, established on September 21, 1933, was chartered to help the insurance industry keep abreast of political developments affecting international aviation, as well as to share information within its membership.⁴⁸ USAIG was invited to join the Union and was voted in as a member on March 8th, 1935. The second reason USAU was contacted is because many of the insurance executives affected by the disaster had met Beebe during his travels in Europe in 1927. The foreign insurers wanted a trustworthy local company that understood the business of aviation insurance, as well as international and American aviation law, to assist them in sorting out the complicated aftermath of the disaster.

Beebe was quick to accept the appeal for assistance, even though he knew there would be no profit in the undertaking. He hoped that through his assistance he could establish a good-faith arrangement with leading European firms, so that he could call on them in the future should he ever need them to settle an American catastrophe on their soil.⁴⁹ He also wanted to preserve good faith among the European companies who had supported USAU in the reinsurance market. As he explained to his member companies,

⁴⁷ Beebe, 33.

⁴⁸ Ibid., 31.

⁴⁹ Ibid., 33.

"A good deed now may reward us later on."⁵⁰ Lastly, Beebe was pleased that his company had been asked to take the lead in such an important matter. He wrote of his feelings in a memo to his advisory boards:

I feel that it is slightly flattering for the USAIG to be selected to represent all foreign underwriters and is in effect a step towards my desire that the USAIG shall be as well known in aviation and aviation insurance circles abroad as [it is] domestically.⁵¹

On the morning of Saturday, May 8th, Beebe was notified that USAIG would serve as the sole representative for all the foreign companies involved.

A keen businessman, Beebe assembled his Casualty Advisory Committee and explained his approach. He would leave the Germans to handle casualties involving foreign citizens, both passengers and crewmembers, while USAU dealt with American citizens on board, as well as those who might have been injured or killed on the ground.

On May 11th, he wrote:

According to the information which I now have there were 16 American passengers on board the ship: 5 were killed, 8 injured, and 3 apparently uninjured. There were 21 foreign passengers of which 8 were injured, 7 uninjured, and 6 killed.⁵²

He promised his advisory committee to divide the load between the member companies, so no one firm would have to carry a disproportionate share, then reminded the representatives that they would be reimbursed for any expenses incurred in handling this matter. Lastly, he reasoned that,

All passengers and passengers' baggage apparently come within the scope of the Warsaw Convention, which provides limitation of liability in respect to death and injuries, which will tend to simplify matters.⁵³

⁵⁰ Beebe, Memorandum #134, 2.

⁵¹ Ibid., 4.

⁵² Ibid., 3. These numbers were updated later to reflect two additional deaths.

⁵³ Ibid., 3. Beebe's remarks should not be misinterpreted as unduly callous. Neither he nor his audience had anything to lose in the disaster, as none of them held coverage for the ill-fated *Hindenberg*, its passengers, or its crew. As was his nature, Beebe was being efficient, pointing out that the liability limits would simplify the process of settling claims, thereby reducing the time, trouble, and expense of providing settlements.

Next, Beebe placed a USAU employee at the heart of the government inquiry when he allowed Raymond B. Quick, a trusted employee who had formerly worked as an engineer with the Bureau of Air Commerce, to sit as a member of the Commission investigating the accident on behalf of the Bureau of Air Commerce.⁵⁴ Before leaving, Quick promised Beebe that he would forward copies of meeting minutes and testimony. He also told Beebe that there might be a great deal of money to be realized through salvaging the site of the wreck. In preparation, Quick had the site cordoned off.⁵⁵

Ironically, Chambers and Beebe had addressed the issue of lighter-than-air insurance coverage early in their association.⁵⁶ Shortly after forming the USAIG, the pair was offered a line of reinsurance on the airship *Graf Zeppelin*. They took the matter up with their advisory groups, recommending that the new company stay away from airship insurance for the foreseeable future. The members agreed. A few years later, they did hold a line on the *Graf Zeppelin* for a short period of time, but then let it go fairly quickly. Both of the partners were unconvinced that airships were a desirable risk, or that they would ever play an important part in the advancement of aviation, and declined to accept reinsurance when Zeppelin Reederei, the airship manufacturer, announced plans to build *Hindenberg*. A few years later, after several round trips from Frankfurt to Lakehurst, it appeared the giant airship would prove the pair wrong. Nevertheless, they continued to avoid these insurance risks.

They had, however, taken out coverage for fields and structures supporting airships. They held a policy on behalf of the American Zeppelin Corporation, booking agents for

⁵⁴ Quick's credentials from Beebe, 111.

⁵⁵ The salvaged air frame, composed almost entirely of aluminum and sold for scrap, fetched only \$12,000, a fraction of the over \$4 million it cost to build the airship. The huge engines which had powered the zeppelin were recovered, crated, and returned to Germany, per the operators' instructions (Beebe, 34).

⁵⁶ Ibid., 4.

the Hamburg-American line that operated the *Hindenberg*, covering the Lakehurst field during the airship's visit. They also covered the ground workers at the field. As a result, they were facing some losses, from a ground crewmember killed, two more injured, and a single spectator who died in the disaster.

What was supposed to be a relatively simple matter turned complicated when the German backers of the airship informed Beebe that they had secured casualty insurance coverage for their passengers in the amount of 30,000 RM (\$12,000.00), 10,000 RM more than the liability limits established in the Warsaw Convention. The German were willing to pay the larger amount in return for releases from any further damages. Beebe and his team were authorized to make payments to victims' families and survivors, deducting expenses, such as ambulance and medical expenses, previously covered by the firm. Knowing that lawsuits might result in courts restricting the carrier's liability to the Warsaw limits, the passengers' families accepted the deal.

The final settlement was further complicated by the Germans' failure to cover luggage and cargo carried aboard the airship. Beebe and his team were able to sort this out on terms acceptable to all. After months of negotiations between those injured, the member companies, the German and British insurers, and the German operators of the line, the event concluded satisfactorily for all concerned. The relationship between the German, British, and American firms was the strongest it had been in their collective histories. It was a high point before international relations began to deteriorate in a sequence that eventually led the world into war.

Although the *Hindenberg* was one of the most famous risks in aviation insurance, there were a number of other notable risks, covered by USAU, that reflected the firm's

commitment to American aviation. The first of these was Doolittle's blind-flying experiments, which have been described previously. Had these experiments turned out differently, the partners might have encountered overwhelming opposition to insuring further experiments, but such was not the case. USAU continued to deliver on its founders' commitment to aviation.

In 1933, United Air Lines introduced its fleet of sixty new Boeing Model 247s, the first high-speed luxury transport in the United States.⁵⁷ The plane's stressed-skin fuselage made it much more aerodynamic than previous designs.⁵⁸ This innovation, coupled with the advent of retractable landing gear, reduced drag significantly, improving both speed and fuel economy. Although a superb design, pilots were unaccustomed to the speed and handling characteristics of the new aircraft. As USAU and others who had come into the aviation insurance industry had learned, whenever a new airframe was introduced, losses tended to be higher until pilots and mechanics became more familiar with the peculiarities of the design. Beebe recalled his company's involvement in the airline's painful familiarization process:

Many serious and costly accidents followed that were nerve-racking to United's able management and the managers of the USAIG, to say nothing of the many that died that aviation might progress. United knew they were on the right track and would eventually conquer[,] and this same faith prompted the USAIG to suffer and cooperate as its contribution.⁵⁹

Despite mishaps, the 247s were a sound design. The partners' faith in the aircraft was further reflected in their decision to insure one of these types in the London-to-Melbourne, Australia Race held in 1934. Clyde Pangborn and Colonel Roscoe Turner would pilot the American plane on the 11,300-mile journey, which was slated to begin on

⁵⁷ Beebe, 106 and Appendix II, 27.

⁵⁸ Allen, 111.

⁵⁹ Beebe, 106.

October 20, 1934. Turner finished third behind a British-build DeHaviland racer and a Dutch-owned Curtiss transport. But it was the Boeing's performance, as Chambers and Beebe had predicted, that captured the world's attention. Its innovative airframe and engine design marked the beginning of a new chapter in transport aviation.

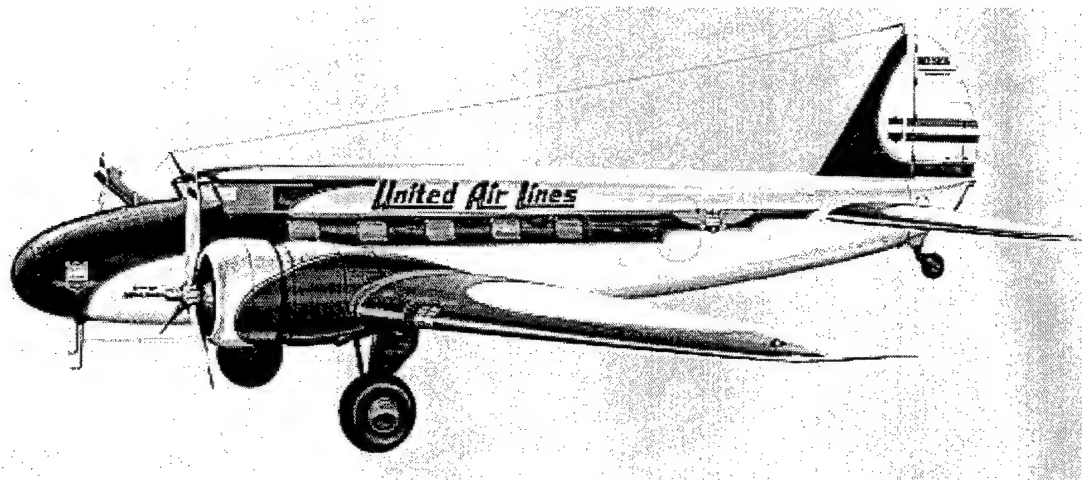


Fig. 53. Artist's rendition of the Boeing 247, the first modern airliner.⁶⁰

In the summer of 1934, Chambers and Beebe opted to support mankind's first attempt to reach earth's stratosphere.⁶¹ Backed by the National Geographic Society, Captains Orvil Anderson and Albert Stevens, both of the Army Air Corps, were trying to break the world altitude record for manned flight. On July 28 1934, they ascended in their balloon, the *Explorer*, to an altitude of 60,613 feet before cables snapped and the two aeronauts had to abandon their balloon and take to their parachutes. USAU paid claims on the lost and damaged equipment, allowing a second attempt the following year.

⁶⁰ Allen, 111.

⁶¹ Ibid., 107, 108, and Appendix II, 27, and Josephy, 271.

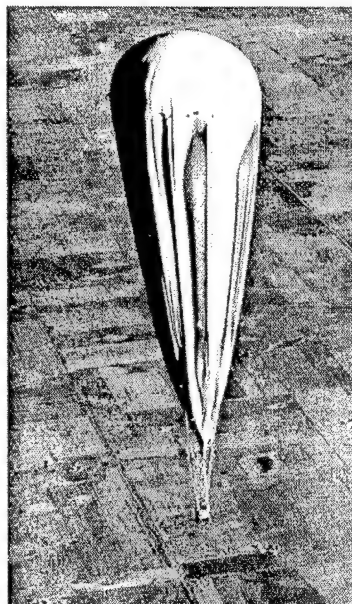


Fig. 54. Explorer II rises to its record-setting altitude on November 11, 1935.⁶²

On November 11 1935, Stevens and Anderson, in the *Explorer II*, floated to an altitude of 72,395 feet, almost fourteen miles, setting a new altitude record. At that height, the temperature outside the gondola was 77.8 degrees below zero. Unlike their first ascent, their equipment worked perfectly this time. The two captains were able to land safely in a South Dakota farmer's field.

In September of 1935, American aviation suffered a tragic loss when pilot Wiley Post and his famous passenger Will Rogers were killed when their airplane crashed near Point Barrow, Alaska.⁶³ Post, a one-eyed ex-parachute jumper, earned fame when, in 1931, he and Harold Gatty flew their Lockheed Vega, named *Winnie Mae*, around the world in eight days, fifteen hours, and fifty-one minutes.⁶⁴ Two years later, in July, Post flew the route again – solo – cutting almost a full day off his time. It was an incredible performance and an amazing display of both human and mechanical endurance.

⁶² Josephy, 271.

⁶³ Beebe, 108 and Appendix B, 27.

⁶⁴ Posts' around-the-world flights, Josephy, 246.

Following his second around-the-world flight, Post met famed humorist Will Rogers, a long time proponent of aviation. The two became fast friends and traveled often together. Rogers claimed that they split the work on their flights: "It's a 50-50 job; Wiley does the flying and I do the talking."⁶⁵

In the summer of 1935, Rogers hired Post to fly him to Alaska to gather information for his column and to interview Charlie Brower, the self-proclaimed "King of the Arctic," who had lived near Point Barrow for 50 years.⁶⁶ The plane that Post would fly on this trip was a hybrid, made from the remains of two other planes that had been damaged in crashes. The builders had combined the fuselage of a Lockheed Orion with the wings of a Lockheed Explorer. Because the result was not one of Lockheed's certified models, it bore an experimental (NX) designation. As an experimental plane, it was considered a very high risk for insurance. In preparation for his flight, Post approached several insurance companies, among them USAU.⁶⁷ Post also obtained coverage from Lloyd's of London, Associated Aviation Underwriters, a company that started in August 1929, and Aero Insurance Underwriters, the direct successors to Barber and Baldwin.⁶⁸

Prior to departing from Seattle, Post ordered pontoons so that he could convert his Orion-Explorer into a floatplane, allowing it to land on the isolated lakes near Point Barrow. The pontoons, however, were late in arriving. Eager to get underway, Rogers

⁶⁵ Quoted Nevin, 160.

⁶⁶ Details on this final flight from Nevin, 160, and Reed Chambers to Trubee Davison, July 20, 1953. Attached to Chambers' letter is a report, apparently extracted from the original claim file, detailing the accident. The report does not reveal a single cause for the accident, but concedes the imbalance caused by oversized pontoons was a likely candidate. Perhaps in response to a query that was later removed from the file, the report concludes: "From the reports of this accident, there is no reason to believe that Post's visual deficiency was in any way a contributing factor."

⁶⁷ This author found no records indicating the discussion that may have occurred in regard to this risk, however, it appears likely that Chambers, Beebe, and their underwriting staff, out of their appreciation for Post's contributions to aviation and Will Rogers' continued support for flying, decided the flight was in the best interest of American aviation and, therefore, elected to provide insurance.

⁶⁸ Beebe, 108.

pushed Post to find another solution. Post found a set of pontoons in Seattle, but they were for a much larger plane. Consequently, the floats protruded further forward than was desirable, upsetting the balance of the airframe. Post found that by having Rogers push himself as far back into the fuselage as possible, and by redistributing their baggage, the plane could be balanced sufficiently for takeoffs and landings. There was, however, a distinct danger that the plane would be unable to glide should it lose its engine. As front-heavy as it was, it would tumble out of the sky if it lost power. Aware of the risk, but confident that they would be okay, the two friends left Seattle on August 15, 1935.

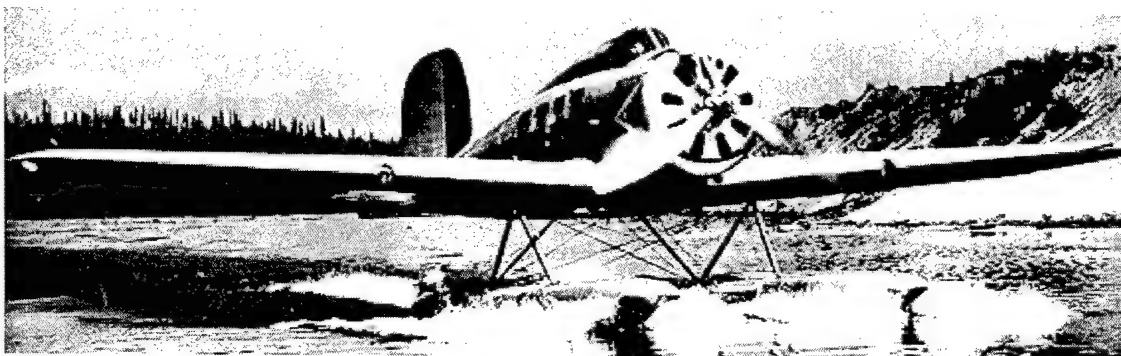


Fig. 55. Post's Orion-Explorer takes off from Seattle bound for Point Barrow, August 15, 1935.⁶⁹

They landed at Fairbanks for fuel and food, then left again later that same day.

Crossing the Bering Sea under an extremely low ceiling, Post became confused about his exact location when he again reached land. Was Point Barrow to the right or to the left? Because he was running low on fuel, he decided it would be safer to land and ask the local inhabitants, Eskimos, for directions. He landed in a coastal inlet near a settlement.

Having obtained directions, Post returned to the plane about twenty minutes later. During that time, the engine had been cooling. Post climbed in, had Rogers push himself back into the fuselage, and started the motor. Lifting off under an 800-foot ceiling, Post pulled back on the stick to bring the Orion-Explorer to a suitable cruising altitude as

⁶⁹ Nevin, 161.

quickly as possible. About fifty feet off the water, the engine died and, as feared, the plane tumbled out of control, killing both occupants.⁷⁰



*Fig. 56. Post's Orion-Explorer lies on its back in an inlet twenty miles from Point Barrow.*⁷¹

In January of 1937, USAU covered Boeing's tests of their new B-314 aircraft. These huge flying boats were the largest commercial planes to fly until the introduction of jumbo jets in the 1960s.⁷² The B-314 featured two decks and was capable of seating 74 passengers or sleeping 40 in its convertible berths. It had a top speed of 193 miles an hour and could range 3,500 miles cruising at 175 miles per hour. Powered by four Wright Double-Cyclone engines, each capable of generating 1,500 horsepower, the plane produced an amount of power roughly equivalent to two locomotives. Further, the thick wings featured a walkway so that onboard mechanics could, if necessary, work on the engines even while the plane was in flight.

USAU was well aware of the capabilities and concerns associated with the new aircraft.⁷³ Ray Quick, the former Bureau of Air Commerce-engineer who later served as Beebe's inside man on the Hindenberg disaster, was also an expert on flying boats. The Boeing Company had requested his services as they were building the giant B-314s.

⁷⁰ Lloyds bore the greatest financial burden for the loss, having insured Post's flight for \$262,500.00. USAU paid \$15,000.00, while the remaining two companies paid \$10,000.00 each. This was in addition to any life insurance coverage Post and Rogers carried at the time of their deaths (Beebe, 108).

⁷¹ Ibid.

⁷² Allen, 164, 166, 169.

⁷³ Beebe, 111.

From his vantage point inside the development team, Quick was able to assess the risk accurately, easing concerns when Boeing asked USAU to cover for the costly airframe.

Juan Trippe purchased six of the behemoths to serve as the backbone of Pan-American Airlines' overseas fleet. Maintaining the relationship his company had formed with USAU in 1928, Trippe approached Chambers and Beebe for insurance coverage.⁷⁴ USAU handled 100% of the casualty, third-party liability, and compensation coverage. USAU and Associated Aviation Underwriters jointly insured the hulls, valued at \$750,000.00 apiece, with each firm taking 50%. Beebe reflected on the extent of the risk, writing: "[The Clippers] represent [the] largest commercial aircraft values ever covered in [the] U.S.A., probably in the world."⁷⁵

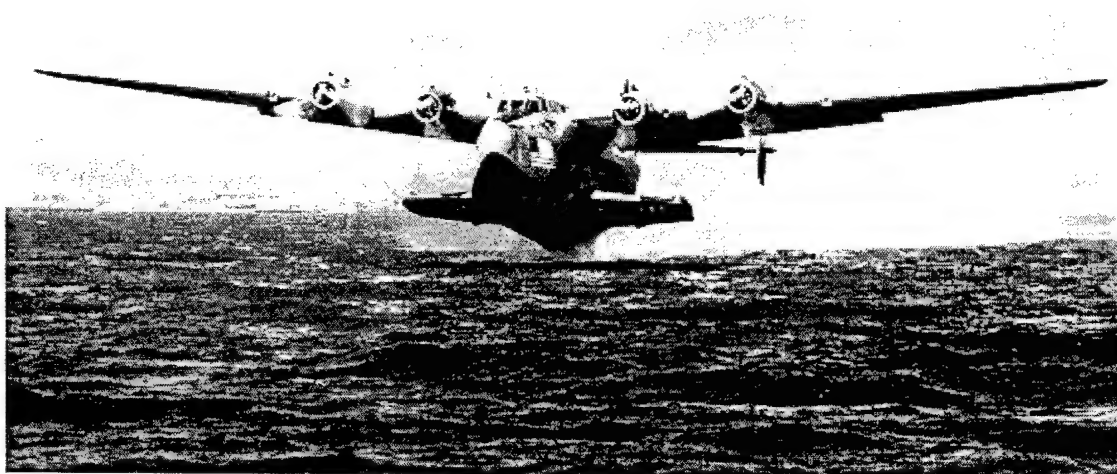


Fig. 57. A Pan-American B-314 lifts off from San Francisco Bay bound for Hong Kong, 1941.⁷⁶

The first of the new aircraft to enter service was dubbed the *Yankee Clipper*. On May 20, 1939, under the command of Captain Arthur E. LaPorte, she flew her maiden voyage

⁷⁴ Beebe, 120.

⁷⁵ Ibid.

⁷⁶ Allen, 167.

from Port Washington New York to Europe in June, inaugurating North Atlantic airmail service and ushering in the age of the great clipper seaplanes. On June 28, Captain R. O. D. Sullivan flew the *Dixie Clipper* from Point Washington to Europe on Pan-American's first transatlantic passenger flight.

USAU and its group of casualty and fire insurers, USAIG, grew steadily throughout the 1930s. By 1931, the managers' firm had grown so large that the staff no longer fit into the office space on the seventeenth floor of 80 John Street. Beebe leased the entire twenty-first floor. The firm took up its new residence on March 9th.

In late May 1932, Beebe and Chambers received an invitation to attend a meeting sponsored by the New York Insurance Department. The meeting was being held, "to find ways of preventing continuance of destructive competition among Groups and Companies engaged in [aviation insurance.]"⁷⁷ The relationship between government regulators and the insurance industry was so strong at this point that the firms were actually receiving state assistance to help them avoid competition that might be injurious to the industry as a whole. Ironically, this is the same type of cooperation that federal investigators would later brand monopolistic and seek to halt.

The partners attended the state-sponsored meeting on June 10th. W. J. McCaffrey, Vice President of Royal Indemnity, was appointed to chair the group, which was to be known as the "Interested Companies' Committee," and Dave Beebe was appointed Chairman of Special Organization Planning.

For the next few months, Beebe worked with representatives from the other aviation insurance firms to hammer out details for a cooperative association. In October, the Superintendent of the New York Insurance Department, Van Schaick, announced that he

⁷⁷ Beebe, 104-105.

was accepting Beebe's proposal and henceforth, the Board of Aviation Underwriters would function as the Department's agents for rating and supervising aviation lines. The Board consisted of: Associated Aviation Underwriters, Barber and Baldwin, National Continental Aviation Insurance Association, The Travelers Companies, and USAIG. Dave Beebe was to serve as the first chairman of the newly created Board.

Also in 1932, at the urging of their member companies, the partners decided to expand their coverage in support of fixed-base operators.⁷⁸ They had provided hangar-keepers' liability insurance since their first days in business, but now, anticipating continued growth in commercial aviation, expanded their services to include all fixed properties at airports – terminals, garages, gates, runways, and related structures were all covered. They created a special management division to handle this new business, which they called "Group B." Group B Business was to be written by the member companies' agents, but the liability would be facultated back to the pool. This was a temporary arrangement, designed to support the member companies in beginning this new coverage. By 1939, the member companies were confident they understood the risks and processes themselves, so Chambers and Beebe shut down the Group B division effective December 31st of that year. Similarly, in 1943, the partners relinquished compensation and employers' liability insurance for aircraft, aircraft engine, and aircraft accessory manufacturers, and in 1946 passed cargo liability coverage directly to the member companies.⁷⁹ Beebe had predicted that one day the management team at USAU might no longer be necessary – that the member companies, once trained and educated on the

⁷⁸ Chambers, undated memorandum, written to commemorate USAIG's thirty-third anniversary (probably authored in spring, 1961), USAU Archives, 5-6.

⁷⁹ Ibid., 6.

industry and risks, might assume all of the management team's functions themselves. In the instances cited above, his predictions seemed on course.⁸⁰

By the end of 1933, the partners looked back on their first four-and-a-half years in business with a measure of relief. There had been some tough times. As they had foreseen at the end of 1929, there were a number of unreliable operators in the early commercial aviation market. The balloon of enthusiasm that had risen among financial investors, ex-military pilots, aviation entrepreneurs and even the American public burst suddenly during 1933, with numerous aviation concerns going out of business.

Part of the problem was the generally poor economic climate of the day. Fewer Americans could afford to fly. Another factor, however, was the number of antiquated airframes still circulating among second and third-echelon local aviation concerns. As a result of these pressures, the American commercial aviation industry constricted in 1933, driving many minor concerns out of business. Consequently, the partners noted a significant reduction in demand for the coverage they offered. This is reflected in their writing proceeds for the years 1929, 1930, and 1933:

⁸⁰ The fact that USAU remains intact after seventy-five years is testament to its efficiency. The member companies continue to believe that having a centralized underwriting and statistics department, the management team's key offerings, reduces individual firms' overhead by centralizing expertise and eliminating redundancies. Still, as Beebe predicted, there still may come a time when the member companies decide to strike out on their own, eliminating the need for USAU's services. If so, Beebe would have been proven correct again. Quoting a memo to his member companies in 1942, he wrote:

If I remind you now of the prediction which Reed Chambers and I made at the time the Group was first organized and which I believe we repeated to each new member at the time of joining the USAIG, you may have a better understanding of the reason why over the period of years I have burdened the Members of our Advisory Councils with a great deal of material and I particularly refer to such material as has gone forward with Class 3 memoranda marked "Dispatched for Benefit of Members who May be Interested in Contents - Not Necessary to Read or Acknowledge." ... I have in mind our often repeated prediction that the time would probably come ... when the knowledge of our Companies and the available spread of aviation business would become such that the Companies would no longer need us and that they could safely go into the field on their own. Under the circumstances, we considered it our duty to educate our Member Companies and their agents in aviation insurance matters to the utmost of our ability to that they would be able to go it alone when we were no longer needed (Beebe, 4).

	<u>Hull Insurance</u>	<u>Casualty Insurance</u>
1929	\$1,089,00.21	\$ 577,073.20
1930	\$ 980,207.40	\$ 777,356.90
1933	\$241,415.17	\$494,236.68

As a result of this decline in business, Chambers and Beebe found that for the first time in their company's history, they were over-staffed. Their staff had grown to thirty-seven in 1931, but given the slump in aviation, they too would have to cut back to keep their costs down. Beebe explained how they handled this delicate personnel situation:

We were obliged to part company with many friends – unless they could pull a stronger oar than older members of the staff, the rule was last aboard the raft, first off.⁸¹

Ironically, as business declined, losses began to increase.⁸² USAU investigators found that many of these crashes were caused by pilot errors. They concluded that in many cases pilots had been inadequately trained, while in others, pilots were flying well below their planned altitudes. Chambers took a personal interest in the accident situation, visiting airline operations centers, talking to pilots and mechanics, and compiling the results of his investigation to reach his conclusions. In at least one instance, his detailed analysis of flying safety was made at the request of the airline itself. United Air Lines asked him to review its operations in February of 1937.⁸³ His findings, delivered in the no-nonsense, blunt style that was his hallmark, were controversial. As a result of his visits to United and the other airlines, Chambers came forward with two recommendations for the airline industry: Install sealed recording barographs on every airliner, to provide a record of altitudes flown, and to buy and employ the Link Blind-

⁸¹ Beebe, 106.

⁸² E. M. Ackerman, "Insurance – Companion of Aviation, An Interview with Reed M. Chambers," *The Weekly Underwriter*, November 21, 1953, 1241, 1244, 1252.

⁸³ Reed M. Chambers to the Board of Directors, United Air Lines, Apr 8, 1937, USAU Archives, 1. Hereafter, this reference will be cited as "Chambers to United, April 8, 1937."

Flying Trainer to provide pilots with additional training, particularly in hazardous operations or unusual attitudes, so they would be better prepared when something went wrong in flight.

Initially some airlines rejected the sealed barograph idea, fearing that pilot organizations might interpret the move as being something of a “mechanical spy” aboard their ships.⁸⁴ In discussing his idea directly with airline pilots, however, Chambers was convinced that they understood that the barograph would serve as a form of protection for those pilots who conscientiously performed their duties. It would only be a threat to those who broke the rules.

Not only did the devices serve to record the flying altitudes: Their mere presence tended to make aircrews more sensitive to their altitude, lest they be “caught” by their nosy mechanical passengers. The result was a reduction in airplanes colliding with the terrain or with manmade structures along their flying routes. Partly as a result of Chambers’ personal involvement, at least two major airlines had installed the devices by 1937, when the Bureau of Air Commerce mandated they be placed on all American airliners.

Chambers’ association with the Link Blind-Flying Trainer began in 1933 when his friend, Casey Jones, first brought the idea to his attention.⁸⁵ Jones had left his job as the Vice President of the Curtis-Wright Corporation in 1932, after the company decided to curtail flying operations and concentrate completely on manufacturing. Finding little else of interest, he decided to start the Casey Jones school of Aeronautics in Newark. A year into this venture, he met Ed Link, inventor of the Link Trainer. Link was frustrated.

⁸⁴ Beebe, 112.

⁸⁵ Casey Jones to David Beebe, Dec 28, 1943, USAU Archives

Despite five years of trying, he had yet to sell his trainer, except as an amusement-park attraction. Frustrated, he was about to give up on the idea when he met Jones.

Jones was interested in the idea. He and Link set up a trainer in Radio City then called Chambers. Jones knew his old friend would be interested in anything related to aviation safety.⁸⁶ He was right. Chambers was very impressed with the device and immediately contacted the heads of several airlines, as well as his friends within the Department of Commerce. Like Link before him, however, Chambers did not initially achieve success. Not until the Army bought a few of the devices did the Department of Commerce decide to reconsider. At Chambers' urging, the Department suggested each airline send one of their ordinary pilots for a two-week training session on the Link Trainer. The sixteen major airlines then in operation each sent a pilot. To a man, each pilot agreed the intense training had been extremely valuable. Although designed to mimic actual flying conditions to provide pilots additional experience flying by instruments alone, the Link trainer also had the ability to simulate adverse weather conditions, mechanical malfunctions, fires, and other unusual situations a pilot seldom encountered in routine flying. Gradually the airlines acquired trainers of their own.

Their delay was partly because the Trainer was a very expensive device. Airlines were sometimes reluctant to incur the additional costs associated with purchasing the complex training devices. Another factor in the delay was resistance from aircrews. Pilot organizations initially rejected the idea of using the trainer, worried that their performances under the simulated conditions might subject them to demotion or

⁸⁶ Jones to Beebe

termination.⁸⁷ Yet time and time again, Chambers pressed the issue. He laid out his argument for the trainers in his 1937 report to United Air Lines:

There are at the present time a considerable number – somewhere, let us say, between 10 and 20 First Pilots who are potential accidents if caught under the proper combination of stressed conditions unless immediate steps are taken further to improve their techniques or to relieve them of duty. This must be done or the operation of the entire system [will be] slowed down to the ability of these men lagging behind. It is my belief that the majority of these backward pilots can be brought up to a position considerably above the art before next Fall when bad weather conditions can again be expected.⁸⁸

United was not pleased with Chambers' summation, taking exception to his allegation that so many pilots represented potential accidents. Their argumentative reply prompted him to adopt a different approach, but one that still stressed skill:

In talking to the outstanding pilots along the line I was told in every division that there were two or three fellows flying the line that were not, in the opinion of the pilots with whom I was talking, as capable on instruments as were the other pilots in the division, and in some instances was told that there were individuals that if caught under the proper combination of circumstances would find themselves in very serious difficulties.⁸⁹

Sensitive to the fact that United was taken aback by his earlier hard line, Chambers appealed to the airlines' desire to reduce risks and costs while maintaining morale. He discussed a proposal by which copilots would, through secret ballot, identify those pilots whom they felt were inherently unsafe in the air, but dismissed the idea as being harmful to corporate morale. Instead, he recommended the Link trainer: "I believe that with the intelligent use of the Link Trainer and with outstanding pilots assisting in bringing up all pilots to a high standard circumstances such as developed in [previous accidents] need not be expected in the future."⁹⁰

In addition to reduced risk and associated costs, another tack he took in convincing the airline concerned reduced operations costs. Instead of using expensive airplane time

⁸⁷ Beebe, 112.

⁸⁸ Chambers to United, April 8, 1937, 2.

⁸⁹ Reed M. Chambers to the Board of Directors, United Air Lines, May 18, 1937, 1. Hereafter this reference shall be cited as "Chambers to United, May 18, 1937."

⁹⁰ Ibid, 2.

for training, as many had done in the past, the airlines could use their Link trainers. He was able to show that, minute for minute, the trainers were much cheaper than using actual flight time in an airplane. It was a compelling argument, and one that eventually won the day. William Patterson, President of United Air Lines wrote to Beebe praising Chambers for his perseverance in convincing the airline to use the trainers.

Mr. Reed Chambers ... was responsible for United Air Lines' making use of the Link Trainer. This not only increased the proficiency of our flight personnel in instrument flying and the development of orientation procedures but also contributed great financial savings through the reduction of airplane time for training purposes, thereby releasing equipment for greater productive effort.⁹¹

Chambers later boasted that by 1953, "all the airlines [had] adopted the Link Trainer as a part of their regular training of pilots."⁹²

Both the increased number of mishaps and the economic slump that had hit the aviation industry in late 1932 proved to be only temporary situations. As pilot training progressed, improved airframes entered the market, and the economic plight of the nation eased, business gradually improved for USAU. As early as 1935, the partners began expanding their staff again, both to meet the growing demand of the day and in anticipation of still greater growth ahead. They also decided to push into an entirely new market: passengers.

In 1935, Beebe and Chambers hit upon the idea of offering air insurance directly to the flying public.⁹³ Not only would this open an entirely new market for the entrepreneurs, but it might also serve to induce even greater numbers of Americans to consider air travel. Through his position as Chairman of the Board of Aviation Underwriters, Beebe was able to arrange a meeting between representatives of the

⁹¹ William A. Patterson to David Beebe, Dec 29, 1943, USAU Archives.

⁹² Ackerman, 1244.

⁹³ Beebe, 108.

aviation insurance firms and the major American airlines. The meeting was held at Block Hall, in New York, on December 9, 1935. Chambers was delighted to see his old friend Vic Chenea, now the General Traffic Manager for Pan-American Airways, at the meeting.

Ten days after the meeting, the partners announced their new coverage, called "Airsurance." At first available only to employers, the insurance was designed to cover executives and employees traveling as passengers on scheduled airlines. The cost of the insurance was \$1.00 for \$1,000.00 of coverage if flying on business; \$1.10 if traveling for recreational purposes, with a cap of \$10,000.00 on any one passenger. Airsureance proved to be an immediate success. Reports USAU received from the airlines indicated they were delighted with the new coverage. Life insurance companies, however, complained that USAU was directly responsible for greater numbers of their policyholders flying, consequently increasing their risks. By October of 1937, the partners decided that the coverage would be of benefit to individual passengers as well as groups, and they began offering it through stations at airports across the country.⁹⁴ Beebe wrote of the new line, "Subsequent developments indicate that Airsureance is [the] most helpful contribution [yet] made by insurance companies to increase air passenger traffic."⁹⁵

By 1938, USAU boasted forty-one employees, with branch offices in Los Angeles and Washington DC.⁹⁶ The premium volume had grown, finally returning to the levels the firm had enjoyed in 1931.⁹⁷ The USAIG, which originally included eight companies,

⁹⁴ Ibid., 112.

⁹⁵ Ibid.

⁹⁶ "Ten Years in the Air – Feet on the Ground," *The Spectator*, July 14, 1938.

⁹⁷ Russell Rhodes, "U.S. Aircraft Group Now Ten Years Old," *The Weekly Underwriter*, July 2, 1938.

had grown as well, to encompass thirty-eight firms.⁹⁸ It had also expanded into Canada. In March, the Canadian Aircraft Insurance Group, a subsidiary of USAIG, opened in Montreal with Dave Beebe as its chairman and Squadron Leader John H. ("Tuddy") Tudhope as its President.⁹⁹ Like Chambers and Beebe, Tudhope had fought in the Great War, flying for the British. An ace several times over, Tudhope amassed an official score of fifteen victories before the war's end.¹⁰⁰ He had returned to Canada after the Armistice, where he worked as an aviation inspector for the Department of Transport. Tudhope also assisted in founding TransCanada Airlines.¹⁰¹

Chambers was unable to join Beebe at the reception inaugurating their new Canadian business venture. From mid-February, he had been traveling through South America with Sumner Sewell, visiting current and potential customers, and becoming familiar with aviation operations in the region. The information he gathered on this trip would prove invaluable to him when the American government asked him to return to South America during the Second World War.

The ten years with USAU had been very good for Chambers. He moved from his Manhattan address to an estate at Huntington, Long Island, providing a home and a lifestyle more in keeping with Myrtle's wishes. It was a beautiful estate, right on the water. This suited Chambers' desires as well: The ocean had always fascinated him and as he grew older he became more interested in fishing and sailing. He purchased a series of boats, each one larger than the one before, eventually ending with a sixty-foot yacht named the *Merposal*, after Myrtle, Polly, and Sally.

⁹⁸ "Ten Years in the Air"

⁹⁹ Beebe, 114.

¹⁰⁰ Robertson, 44.

¹⁰¹ TransCanada was an extension of Canadian National Railroad, which was owned by the Canadian government (Beebe, 113)

Polly and Sally had grown into young women in New York. Although Polly had vague recollections of the 1926 hurricane hitting her home in Tampa, most of her recollections were from the family's time in New York.¹⁰² Sally, three years younger, was sixteen in 1938. The girls were bright and energetic, but had little to do with their father's business. Their father had insisted that his work and home lives should remain separate.

Polly recalled only rarely meeting some of her father's famous associates. Part of the reason for this may have been Myrtle's early aversion to spending time with her husband's scruffy flying associates. When these men became successful businessmen and celebrities, Myrtle asked to accompany her husband to meet them. He answered her request by explaining that they were not good enough for her when they were just pilots; they were not good enough for her now.

Chambers' forceful nature had other implications on his family's life. For one thing, the family was not allowed to eat lamb, a lasting result of his having lost his pet lamb to the family table when he was still a boy. Polly recalled that every time her father would leave on one of his frequent trips, she, her sister and mother would squeal in delight at getting to eat leg of lamb, one of their favorite dishes. Another relic of Chambers' youth that affected the family was his dislike of movies, acquired while working as an usher at the movie house in Denver. Polly reflected on her father's aversion in a 2002 interview:

I can remember he would never go to movies with us. I think the first movie he took us to was *The Roxie*, whatever it was, when Radio City opened. ... I guess he was sick and tired of movies.¹⁰³

¹⁰² Polly recalled of the 1926 hurricane: "I can remember waking up in the middle of the night with a hurricane on the other side of the room; that's about it" (Ackerly Interview, 13).

¹⁰³ Ackerly interview, 10.

Always a firm believer in education, despite his own limited background, Chambers insisted that both his daughters go to college. Polly started attending a junior college in 1938. There she met John ("Jack") Ackerly, a handsome and affable young man. The two began dating, but Polly's father appeared to be displeased with the situation. For one thing, Ackerly was Catholic. Chambers' discomfort did not stem from any religious views, as he was never a very religious man. In fact, Polly could recall only one instance in which she had seen her father in church, and that was at her sister's wedding.¹⁰⁴ Myrtle was the religious member of the family, continuing her singing in the church choir. Perhaps her father would have been equally disagreeable with any young man who came to court his daughter. The fact remains, however, that he did not take an immediate liking to Polly's suitor, referring to him as "that mackerel snatcher."

Chambers did not count on the fact that he had raised a daughter every bit as strong willed as himself. Midway through her sophomore year, Polly eloped, marking the beginning of a warm, caring, fifty-year marriage that only ended when Jack Ackerly died in 1989. Ackerly saw service in World War II, serving as a bombardier-navigator in the Pacific theater before joining the Federal Bureau of Investigation. Very shortly after marrying Polly, Chambers welcomed Ackerly to the family, even breaking his own rule about separating work and family to include his son-in-law on visits to prominent military and civilian leaders in aviation. Polly recalled that it was amusing to see her skinny husband, then just a lieutenant, sitting with her father and a bunch of generals.¹⁰⁵ Chambers remained fast friends with his son-in-law for the remainder of his life.

¹⁰⁴ Ibid., 26.

¹⁰⁵ Ibid., 19.

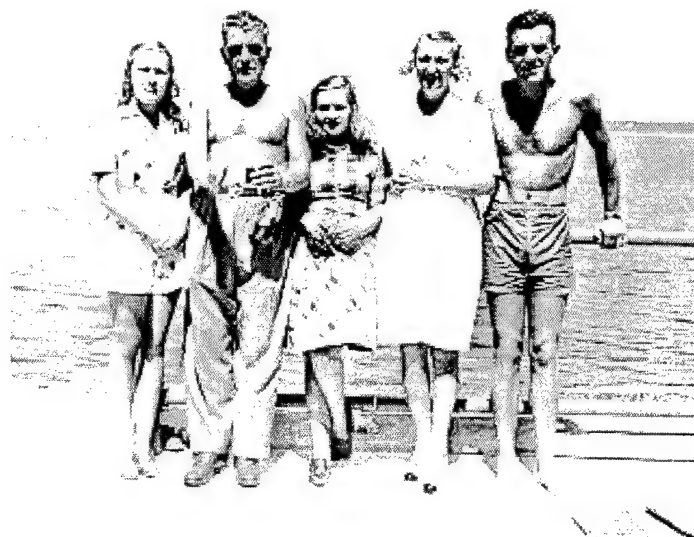


Fig. 58, Polly Ackerly, Reed, Sally, and Myrtle Chambers, and Jack Ackerly, 1940.¹⁰⁶

Another important occasion when Chambers blurred the lines between work and family was for the Ten-Year Club, an association for those employees who had been with the firm for ten years or more. Members were treated to a clambake at the Chambers' Huntington estate. The gatherings began on June 30, 1939 and continued as an annual feature of the USAU calendar until 1955, when the number of employees made the gatherings impractical. Over the years, these parties continued to grow both in the number of participants, and in the extravagance of the celebrations. Club members were flown in from branch offices in Los Angeles, Washington, and later from Atlanta, to participate in the festivities, all at the company's expense.

Beebe and Chambers took a special interest in their employees and their families, establishing an attitude at USAU that strengthened the bonds of loyalty between the partners and their employees. They sought out the best group health insurance coverage they could find and funded their employees' work-related educational endeavors. After

¹⁰⁶ USAU Archives.

Dave Beebe's death, Chambers generously allowed his employees (including even the office boys and secretaries) to purchase stock in the firm, although always made under the condition that USAU had the option to repurchase the stock, as previously described.¹⁰⁷



*Fig. 59. Reed Chambers, Charter Member of USAU's Ten-Year Club.*¹⁰⁸

In addition to the clambakes, Ten-Years Club members also received an extra paycheck each year.¹⁰⁹ These efforts were not unappreciated. Many employees remained

¹⁰⁷ Pat Vallone joined USAU as an office boy in 1946. He was working in that capacity when he learned that the company would subsidize education for its employees. He attended the College of Insurance, returning to USAU as an underwriter in 1947. He recalled Reed Chambers' introduction of the stock-purchasing plan after Dave Beebe's death in 1950. Pat Vallone retired from the company in 1997 as a Vice President, but as of this writing he continues to serve as a full-time consultant. (Vallone Interview, 2 and 6.)

¹⁰⁸ From personal collection of Mrs. Sharon Turner, Chambers' granddaughter.

¹⁰⁹ "In addition to the day of fun and frolic at his estate, every Ten-Year member received an extra paycheck as a bonus. Being paid twice a month, you got twenty four checks a year, so the Ten-Year people got a twenty fifth check, usually in June, to sort of assist them with their vacation. That was the kind of guy he [Chambers] was" (Vallone Interview, 7). Marie Caulfield Martinez also recalled that it was Chambers who initiated the program by which employees could buy stock in their company:

There was never an intent [while Beebe was alive] to share the stock with deserving employees; theirs was a 50/50 deal. It was only when Dave Beebe died that Mr. Chambers made the decision to keep 51% of the stock in his name and offer the remaining 40% to a wide range of employees he though would remain with the company over a long period of time. (Marie Caulfield Martinez to Matthew Stafford, January 11, 2003)

with the company for years, moving from job to job, but dedicated to the firm they partly owned. One employee, who still resides on Long Island, recalled Chambers' generosity:

We have a lot of friends so we meet them in New York for dinner and we've reached the point where we don't gag at the prices anymore, thanks to Reed Chambers and his selling the stock – giving us an opportunity to buy stock. ... Everything we have – the house, car, place out on the island – everything; we owe to Reed Chambers. ... And a lot of other people around here feel the same way. ... He took such a personal interest.¹¹⁰

As Chambers grew closer to his employees and his daughters, he also grew closer to his mother. Winnie Chambers followed her husband to El Paso, Texas, where he sold cars until 1923, and again when he bought a farm near Canutillo, Texas growing and selling cotton. The two retired to El Paso in 1931. Although he and his father remained emotionally distant, Reed Chambers took his family to Texas for visits and brought his parents home to the Huntington estate.

The 1930s had been good to Chambers, his family, and his company. Just as the nation had weathered the worst of the Depression, he and Beebe had guided their company through the aviation slump of the early decade and now, with new airframes and a greater concern for aviation safety, saw good times ahead. They had stuck by their employees, even rehiring some who had been laid off during the slump of the early decade. They had also enjoyed a very favorable relationship between their industry and the government, one that promoted mutual cooperation for the industry's protection and the safety of the flying public. Lastly, although they did not consider themselves rich, the partners had made a good living for themselves and their families, and had ensured their employees and member companies had benefited as well.

Yet as the decade drew to a close, there arose other concerns. Building tensions in Europe threatened to result in another European war that might possibly entangle their

¹¹⁰ Caulfield Interview, 29.

nation, but would most certainly cast long shadows over the cooperative spirit that the partners had noted in the international commercial aviation industry. In a couple of short years, with the world again at war, Chambers would answer his nation's call for aid by leaving his family and firm to serve as one of Franklin D. Roosevelt's Dollar-a-Year men.

Chapter 8

War and Peace

On September 1, 1939, a little over two months after Pan American Airways inaugurated transatlantic passenger service to Europe, Germany invaded Poland, beginning a new war in Europe. At first, it appeared that commercial aviation might not be substantially affected within the United States. Salaries were increasing, America was heading back to work, and it appeared that in the face of increased production, the Depression was over. Faced with such prosperity, the partners went about the business of running their company, even as England and France joined to stand against Germany.

Despite world events, USAIG was experiencing an unprecedented period of good fortune.¹ It had survived the economic slump in the aviation industry and was now enjoying a surge in business. More remarkable than that, it had not had a single claim involving passenger fatalities filed since February 1939. This period of good fortune would stretch for almost another year – nearly eighteen months without a passenger fatality claim – before coming abruptly to an end in August 1940.

On August 1, 1940, Tudhope, managing the Canadian Aircraft Insurance Group, called to inform Chambers and Beebe that his son had been awarded Britain's Distinguished Flying Cross for night raids over Germany.² Ten days later, however, they received a second call that was not so pleasant. Tudhope's son had been reported missing after his plane went down over Wilhelmshaven. As America was not yet in the war,

¹ Beebe, 120-121.

² Ibid., 120.

Beebe decided to contact his associates in the German *Luftpool* to solicit their help in securing information on the missing flyer. He cabled Dr. H. H. Wimmer, with whom he had worked in the *Hindenberg* matter. Wimmer was able to make inquiries, which unfortunately confirmed the young man had died when his plane had crashed. The partners could not have known it at the time, but this would be the last direct dealing they would have with the German firms until after the war ended.

On August 31st, a Penn Central Airlines DC-3 crashed near Lovettsville, Virginia, breaking the company's eighteen-month lucky streak. Twenty-one passengers, two crewmembers, and an off-duty airline employee riding as a passenger were killed in the crash. In terms of casualties, it was the worst crash yet experienced by a domestic airline. A second DC-3 crash in November, near the Wasatch Mountains of Utah, killed seven passengers and two crewmembers and prompted Beebe to observe that, "as fate seems to deal out crashes 'three-in-a-row,' another is fatefully awaited."³ He did not have long to wait. A third DC-3 crashed near the Chicago Airport on December 4th.

Despite these setbacks, Beebe and Chambers continued about the business of selling insurance and promoting safety. Their routine was soon interrupted when, in early 1941, Chambers was invited to Washington D.C. to visit with Secretary of Commerce Jesse Jones and his Assistant, William L. Clayton. He was told only that the matter they wished to discuss affected national defense. Without hesitation, Chambers left for the meeting.

In Washington, Jones and Clayton explained they were concerned over Axis-backed airline operations in South America. Many of these airlines had been using German Junkers trimotors (JU-52s) that were being recalled or being driven out of service

³ Ibid., 121.

because of a lack of spare parts. The deteriorating airline situation offered America an excellent opportunity to expand commerce in the region while at the same time eliminating Germany's economic support and corresponding political influence in the Western Hemisphere. The Secretary asked Chambers if he would join the Aviation Division of the Defense Supplies Corporation and go to South America to see what was needed. The Commerce Department had learned of his visit to South America in 1938. This, coupled with his extensive knowledge of airline operations, made Chambers a natural choice for this important mission.

He rushed back to New York to explain to Beebe and his family that he was going to become one of Franklin Roosevelt's "Dollar-a-Year Men," a group of executives, scientists, researchers, and engineers voluntarily serving their country in its time of need. Chambers was undoubtedly thrilled by the prospect, both by the adventure ahead and the fact that once again his government needed him. He left for South America a short time later.

Upon his arrival, he found the situation much as Jones and Clayton had described it. The Germans had withdrawn much of their financial and manpower support from the South American airlines. A few JU-52s were still flying passengers and cargo in some markets, but in others, operations had come to a halt because of equipment, manpower, or funding problems. The equipment problems had been exacerbated by the recall of many experienced mechanics to Germany so that even where spare parts had been stockpiled, there was no one qualified and capable to make necessary repairs.

Chambers realized the situation in South America required a complete overhaul: new planes, new pilots, new mechanics, new airfields, and the funding to make the changes

possible. There were a couple of major challenges that would have to be overcome to implement his revitalization program. It would be a simple thing to bring qualified South American personnel to America for training as pilots and mechanics, however, the equipment problem posed a greater challenge. The rugged little JU-52s had performed well on the small, rough airfields that dotted the landscape throughout the continent. Replacing them with American transports, the like of the DC-3, would require that the remote airfields be expanded, leveled, and in many instances, hardened for the increased weight. Chambers concluded that a simpler and less costly solution might lie in obtaining an entirely new aircraft; one that, like the JU-52, was capable of carrying heavy loads from rough South American fields. Armed with a complete revitalization program for the beleaguered airlines of South America and his vision for a new, lightweight cargo plane, he returned to Washington in the summer of 1941.

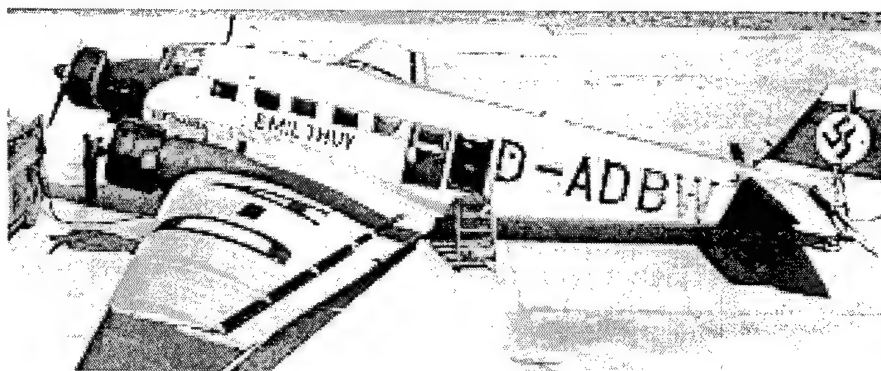


Fig. 60. A Junkers (JU) 52 configured for passenger service.⁴

Beebe was glad to have his friend back in the United States, but was disappointed to learn his partner was not yet done with his service to the Defense Supplies Corporation.⁵

⁴ J. R. Smith, *German Aircraft of the Second World War*, (The Nautical and Aviation Publishing Company of America, Baltimore, 1972), 357. This is a JU-52/3m from the late 1930s, bearing *Lufthansa* markings. This model saw service with airlines in Argentina, Australia, Belgium, Bolivia, Brazil, China, Colombia, Czechoslovakia, Denmark, Ecuador, Estonia, Finland, France, Great Britain, Greece, Hungary, Italy, Lebanon, Mozambique, Norway, Peru, Poland, Portugal, Rumania, South Africa, Spain, Sweden, and Uruguay (Smith, 359).

⁵ Paragraph from Beebe, 121-122.

In Chambers' absence, Beebe had handled a number of crises on his own. In January, the expanding war prompted him to curtail the Service Accident coverage for military flyers.⁶ In June, a B-24 bomber, still owned and operated by Consolidated Aircraft of San Diego, and still insured by USAIG, crashed. The \$308,750.00 claim was the largest paid for any aviation hull up to that time.⁷ Beebe was swamped with work, but Chambers was not yet finished with his South American project. On the contrary; it was expanding.

On September 24, 1941, the President established the United States National Commission of the Permanent American Aeronautical Commission.⁸ This agency represented a belated attempt to reassert U.S. influence in South America under the auspices of the Lima Pan-American Conference of 1937. That Conference agreement had been designed to foster international cooperation among the western hemisphere's nations in the areas of aviation law and technology. Now, conveniently, it offered a diplomatic justification for eliminating the German influence to the South. Chambers was immediately named to the Commission.

Given that the matter had attracted attention all the way to the White House, Chambers found that the leadership at the Department of Commerce had no problem arranging the training for a new cadre of South American mechanics and pilots.⁹ Finding a suitable new airplane, however, was another matter. America was already gearing up production to aid the war effort in Europe. It even appeared the American involvement might become unavoidable in the future. Despite his enthusiasm for the project, federal

⁶ Beebe, 122.

⁷ Ibid.

⁸ "Air Board is Formed for Pan-American Aid," *New York Times*, September 24, 1941 and "Aeronautical Body's Members in U.S. Named," *New York Herald Tribune*, September 24, 1941. Thomas Burke, Chief of the State Department Division of International Commissions was appointed head of the commission.

⁹ Reed Chambers to Erik Nelson, August 18, 1941.

officials made it clear to Chambers that limited resources could not be sidetracked for an essentially non-military project.

Although he was a successful insurance executive and respected in both the aviation and insurance industries, it is likely that this project had special appeal for Chambers, as it would take him back to the cockpits and flightlines he loved so much. Instead of inspecting and reviewing other designers' airframes, he would at last be able to assist in designing one himself. He would take all that he had learned in his years working with transport planes and, with a team of the best and brightest engineers in the industry – most of them personal friends – create a truly revolutionary aircraft. He was undoubtedly distressed by the government's decision not to pursue his design.

At about the same time, however, the Army Air Corps' Chief of the Staff observed America had a need for a plane very similar to that which Chambers had described.¹⁰ The Germans were using their JU-52 to redeploy forces rapidly. In their rapid assault of April 1940, they had air-ferried nearly 30,000 troops into Norway, off-loading their soldiers where they were needed most. America at that time had no equivalent aircraft. U.S. forces, with their heavier transports, would be restricted to well-prepared airfields, increasing their vulnerability and delaying their arrival at the front. The Chief concluded America needed a lightweight transport.

Although the Army was definitely interested in Chambers' plane, it was also concerned about the potential diversion of resources that a new design might cause. After considering his proposal for two weeks, the Assistant Secretary of War forwarded a

¹⁰ Division Intelligence, T-2, Air Technical Service Command Wright Field, April 1946, "Development of Transport Airplanes and Air Transport Equipment, Part V; From Caravan to Packet, 1940-1945," *AAHS Journal*, Vol. 46, No. 1, Spring 2001

memorandum outlining some constraints for the project. Chambers could pursue his design, subject to the following of restrictions:

1. Little, if any critical material [will] be used (i.e., aluminum alloy);
2. Aircraft factories at present engaged in the national defense program [will] not [be] utilized.
3. We [will not] not involve the engineering staff of these companies;
4. The project [will] be developed around engines at present time in mass production;
5. The plane [will] be cheap to produce in quantity, as large quantities may be desired for crash landings in isolated places.¹¹

In addition to these restrictions, the Army provided a number of weight, size, and capabilities specifications.¹² Essentially the Army wanted a cargo platform that was at least 8 x 8 x 25 feet and capable of carrying wheeled vehicles. The plane was to employ two engines of the same type used on the DC-3, have a five hundred-mile loaded cruising capability, a thousand-mile range unloaded, and a gross weight of less than 28,500 pounds. It was a tall order, but Chambers was energized, probably as much by the challenge as the opportunities for aviation advances that it offered.

Working with William Burden, Vice President of the Defense Supply Corporation, Chambers sent letters to various contacts throughout the aviation industry, inviting them to Washington to learn about an interesting opportunity. National security dictated that the Chambers could reveal very little about the military aspects of the project. He told his contacts only that America was looking for a machine to replace the JU-52s in South America. In his letter to Major Erik Nelson, his first choice to manage the project, Chambers vaguely outlined the project, and then made his pitch:¹³

¹¹ Chambers, "Memorandum to Members of the Aviation Division of the Defense Supply Corporation Basic Design Committee (Cargo Plane)," August 26, 1941, USAU Archives, 2. Hereafter this reference will be cited as "Chambers, Cargo Plane Memo."

¹² Ibid. and Chambers, "Condensed Report on the Meetings of the Basic Design Committee (Cargo Plane) of the Defense Supply Corporation," September 2, 1941, USAU Archives, 2. Hereafter this reference will be cited as "Chambers, Design Minutes."

¹³ Nelson was an engineering officer in the Army Air Corps, stationed at Wright Field in Dayton. He had extensive experience in aircraft design.

Assuming that the program goes ahead, I have been wondering whether you would not be interested in coming back with us as a sort of coordinator, etc. on the manufacturing program. It should fit right into your old experience and should be one of the most interesting jobs I know of. I know that I can get sufficient salary set aside for you so that you will be able to at least pay normal living expenses. If you are interested, wish that you would wire me c/o Carleton Hotel, Washington. By that time I will be able to give you more of the story.¹⁴

On August 26, 1941 Chambers met with members of the newly established Basic Design Committee at the Lexington Hotel in New York to discuss the new plane. The committee consisted of: André Priester, Chief Engineer of Pan-American Airlines; Luther ("Luke") K. Harris; John ("Gus") W. Crowley; and William B. Stout, the inventor of the Tin Goose. In addition to the committee members, Ralph Upson, an engineer working with the Stout Skycraft Company and Mr. Charles H. Babb, an industry consultant specializing in cargo plane requirements, were present for the meeting. Absent from the gathering was Allan H. Lockheed, Vice President and General Manager of Berkey and Gay's Furniture Company's Aircraft Division. If the Committee were to decide on a wooden airframe, Chambers decided, Lockheed would be the man he would need. As the America's furniture companies were not yet caught up in war production, they offered a large pool from which to draw experienced woodworkers.

Keenly aware of the limits of his own engineering background, Chambers saw his position as that of a facilitator, although he frequently injected ideas based on his vast experience with the industry. As he explained in his memorandum of August 26th:

With the exception of Mr. Crowley, all of you have known me for many years. You all know that I know nothing of engineering or manufacture and, fortunately, that I also know it. My experience does give me some idea of what is required to do the job in question and because of my very close friendship with all of you I hope that I may be of assistance to you in smoothing out the little difficulties and differences of opinion which are certain to arise.¹⁵

¹⁴ Chambers to Nelson.

¹⁵ Chambers, Cargo Plane Memo, 3.

Looking beyond the war, Chambers explained his belief that the committee had a unique opportunity to open new frontiers of economic opportunity:

I cannot help but feel that here is an opportunity where a group of real Americans can do a pioneer job that will be worthy of our ancestors in putting American aviation in a position where it can do for the inaccessible places of all of the western hemisphere what the railroads did for our own United States a few generations ago.¹⁶

The meeting began with a review of the War Department's restrictions and the Army's specifications. The attendees unanimously agreed that advances in aviation technology would make it possible to produce an aircraft superior to the JU-52 in virtually every aspect.¹⁷ They also agreed that the plane should be simple in design, so that it was cheap to produce and maintain, and so that it would be easy to fly, even for inexperienced pilots. Bill Stout suggested the committee's motto should be, "What you don't put on ain't going to cause you no trouble."¹⁸ Both Stout and Babb submitted drawings for the committee's consideration, but the majority of the session was spent debating the merits of various materials. With traditional aluminum alloys unavailable, the Committee had to consider materials and production techniques.

Members had been informed by the Office of Production Management that chrome-moly tubing was available in large quantities. This tubing could be welded into a lightweight, strong frame, over which shaped plywood could be mounted. Taking a different view, Bill Stout argued at length for stainless steel. He had conducted experiments with rolled stainless steel and was impressed both by its strength and durability. Because the techniques associated with stainless steel-construction were relatively new, committee members felt that opting for this material might substantially delay production and delivery of the new planes. Stout countered mass-production

¹⁶ Ibid.

¹⁷ Chambers, Design Minutes, 1.

¹⁸ Ibid., 2.

techniques would expedite the production process so it would eventually be faster than the welded-tubing-and-plywood construction under discussion. With Lockheed absent, however, there was insufficient expertise in woodworking to counter Stout's argument.

In the following two days, the committee reassembled to discuss the design further. They concluded that the machine should be able to clear a fifty-foot obstacle with only a 1,500-foot run and to stop within 500 feet of its brakes being applied. Additionally, they determined this aircraft would have a rounded fuselage, because it would ease manufacture and provide a more aerodynamic surface. Before adjourning, Chambers invited Rickenbacker in to speak to the group over lunch. Echoing his friend's vision of new economic frontiers, Rickenbacker described how important transport aircraft would be to the American economy after the war.¹⁹ He said he was enthusiastic about what he had learned so far and encouraged the group to continue their work as quickly as possible.

Following the luncheon with Rickenbacker, the group reconvened to review their findings.²⁰ They determined they needed a Project Manager to supervise the development. Chambers recommended Nelson to head the project. The group concurred and Nelson was brought into the program. Next, the group determined they needed to begin acquiring some design sketches. Chambers asked each attendee to forward nominations for a design team to either himself or Nelson, and then adjourned the meeting.

Over the course of the next few months the committee decided to pursue a stainless steel-shelled aircraft. Following this decision, the committee solicited a proposal for a

¹⁹ Ibid., 6.

²⁰ Ibid., 6-7.

preliminary design to the Budd Corporation of Philadelphia.²¹ At first glance, Budd seemed an unlikely choice. The company had extensive experience in fabricating streamlined stainless steel products, but the majority of their production had been dedicated to artillery shells and related ordnance products, or to passenger railcars. Except for a few engineers working in a small experimental-aircraft section, the company had not dealt with light-gauge steel products of the type that would be needed in the new cargo plane. If they were awarded the production contract, it would mean a massive retooling and retraining effort and a corresponding delay in production.

Yet despite the war raging in Europe, there seemed to be little sense of urgency among the Army Air Corps personnel responsible for making decisions regarding the new cargo plane. Just days before the Pearl Harbor attack, Chambers visited Tooey Spaatz, his one-time wing man during the Great War, to deliver the Budd preliminary design and the committee's recommendation.²² Spaatz was impressed with the concept. According to Chambers, Spaatz promised the Army would "immediately place an order for a thousand," however, that sense of urgency seemed to be lost after December 7th.²³ As Chambers explained to Allan Lockheed a few days after the attack, "I'm afraid that the entire Air Corps staff has been too busy this week to give [the cargo plane] much attention."²⁴

²¹ Michael Watter, "The Story of the RB-1 Stainless Steel Cargo Airplane," as presented at the Washington Aero Historians Meeting of the American Aviation Historical Society, Washington D.C., October 15, 1966, 2-3. (Hereafter, this reference will be cited as "Watter.") The author uncovered a copy of Watter's 24-page history in a collection of Reed Chambers' reading material in the USAU Archives. Stapled to the front, was a letter from Watter to Chambers dated Oct 11, 1966, which read in part: "Reed - having sponsored the RB-1, you may care to have its story in your file."

²² Reed Chambers to Allan H. Lockheed, December 11, 1941, USAU Archives.

²³ Ibid.

²⁴ Ibid. Lockheed wrote to Chambers on December 8th, lamenting the fact that it would take up to two years to begin production of stainless steel-hulled planes. He recommended the committee reconsider plywood over steel tubing, citing three examples where companies using these materials had quickly

Within a few days, however, a decision was made. William Burden, in his capacity as Vice President of the Defense Supplies Corporation, contacted Budd with a contract.²⁵ Budd was authorized to spend up to \$20,000.00 for basic engineering work on the new aircraft. Additionally, should Budd choose to build a scale model for wind tunnel-testing, the Corporation would promise to pay expenses on the model, up to a cap of \$8,000.00. Budd selected Russian-born Michael Watter as its chief engineer to head the design team.²⁶ Watter was a lieutenant commander in the United States Naval Reserve on the Inactive list.²⁷ He had worked with Chance Vought on the original Corsair fighter series before moving to Martin. He was working on the MARS and Mariner flying boats when he was first approached by the Budd design team.²⁸ Watter had been looking for a lightweight, strong material to reduce the weight in his Martin designs. Budd wanted Martin to consider stainless steel in their design but at the time Watter believed there was insufficient engineering data to risk switching from aluminum alloy. When he finally became convinced of stainless steel's merit in aircraft design, he left Martin to join

produced aircraft for the Army. (Allan Lockheed to Reed Chambers, Dec 8, 1941, USAU Archives). In his reply of the 11th, Chambers expressed his appreciation for Lockheed's suggestion, but indicated they should probably present a tube-plywood design as a separate proposal; the "stainless job" was to continue until the Army decided otherwise.

²⁵ Figures quoted in this paragraph are from draft of a letter from William A. Burden to Edward G. Budd Manufacturing Company, December 10, 1941, USAU Archives. The author located this draft in the USAU archives. Chambers was sent a copy of the draft for his input.

²⁶ Watter, 1-2.

²⁷ "Stainless Steel Cargo Plane is Built for Navy," *New York Herald Tribune*, May 14, 1944.

²⁸ The MARS was a 70-ton, four-engined flying boat built to carry extremely large loads over great distances. Prior to its acceptance by the Navy in November of 1943, USAU shared coverage of the aircraft with its two largest competitors. It had been the largest single hull risk ensured to that time. Beebe recalled the Navy's acceptance, allowing the insurance firms to cancel their coverage, "was greeted with many sighs of relief" (Beebe, 127). Only seven of the massive floatplanes were ever built. The Mariner was a two-engined flying boat designed for maritime reconnaissance. It became a workhorse in the Pacific theater. Eventually 1,366 of these reliable planes were built. They continued in U.S. service until the end of the Korean War. (Aircraft information from Elke C. Weal, *Combat Aircraft of World War Two* (McMillan Publishing Co., Inc., New York, 1977), 204-205.

Budd's design team. Now he was on the leading edge of proving the same technology he had rejected himself a few years earlier.



Fig. 61. The Design Team for the All-Stainless-Steel Cargo Plane.²⁹

Because the Defense Supplies Corporation lacked any bureaucratic mechanism to execute a contract or oversee its completion, Budd agreed to design the aircraft to meet both Army and Navy specifications and to allow the Navy to exercise technical control over the engineering aspects of the project.³⁰ Additionally, since the plane was eventually to serve in a commercial capacity, ostensibly overseas but probably in the United States as well, the Civil Aeronautics Administration was to oversee production controls. With these details orchestrated, Chambers' role reverted to that of overseer, watching to ensure the Defense Supplies Corporation's investments and interests were protected. He checked on the project from time to time, but was not involved in the day-to-day production activities.

²⁹ Pictured from left to right: Luke Harris, Gus Crowley, Edward Budd, Sr., André Priester, Major Erik Nelson, William B. Stout, Edward G. Budd, Jr., and Chambers. Photo from USAU Archives.

³⁰ Watter, 5.

Despite his hands-off stance, however, the project clearly bore the imprint of Chambers' influence. In final form, it closely aligned to the initial requirements he had created on his visit to inspect South American aviation the year before. More importantly, it boasted all of the major safety innovations of its day. The rolled-stainless shell would prove even more resilient than its designers had hoped and pave the way for the stainless-skinned aircraft that continue dominate commercial aviation today.

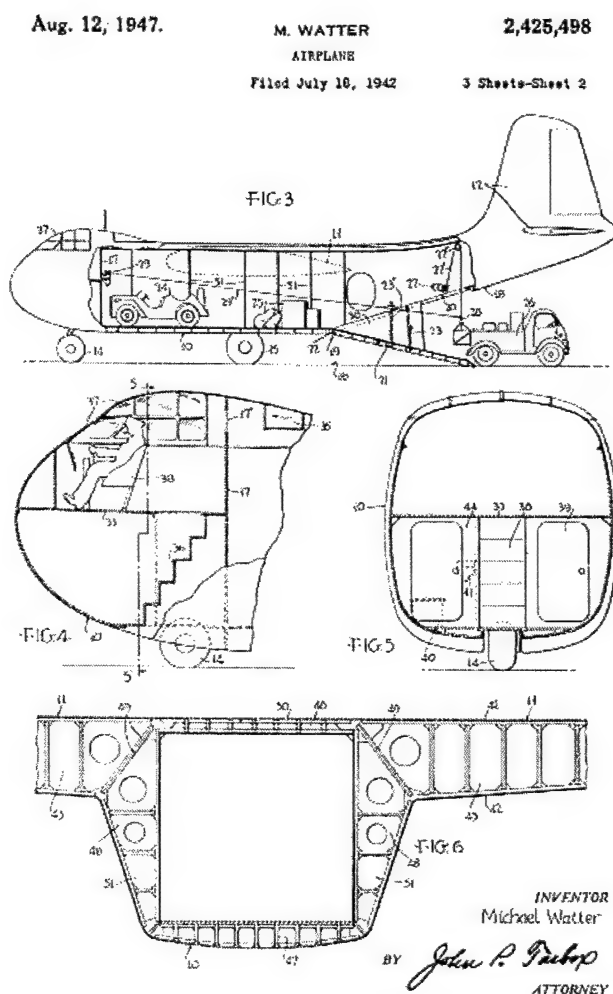


Fig. 62. Watter's original plans for the all-steel cargo aircraft, filed with his patent application.³¹

³¹ Watter, attachment.

Although Chambers thought he was done with the Defense Supplies Corporation – at least temporarily – it turned out that the Corporation was not yet done with him. Beebe recalled his first weeks back to work in his company history:

After a year's absence in the Government service (Cargo Plane) Reed Chambers returned to the USAIG and both and I thought [that] his return was for the duration and the morale of the USAIG as a whole soared accordingly. During the next three weeks the pressure to return [to government service] grew daily. We never had a luncheon together that he was not called to the phone in a plea from some government department. His return, I could see, was inevitable and I ceased trying to hide and preserve him for the USAIG and my own selfish convenience, and decided he must accept one of the pleas.³²

Beebe read the situation correctly. His partner would soon leave for another year.

Noting that Chambers was no longer tied up with the cargo plane, Burden came up with a new task for his energetic aviation expert.³³ As the country prepared for war, the United States found itself with insufficient supplies and sources for rubber. Since Chambers was familiar the indigenous aviation capabilities that might be secured to transport rubber out of the isolated rubber-producing regions of Brazil, he was chosen to return to South America and report back to Washington on what he found.³⁴ He was to develop a plan for developing the region so that it could supply America's rubber needs –

³² Beebe, 192.

³³ This and the following account of the formation of the Rubber Development Corporation are from an unpublished, eleven-page history of the Defense Supplies Corporation's actions in South America entitled "Development of the Rubber Program for the Period August 15 to December 31, 1942." (Hereafter, this reference will be cited as "Development Report." Neither a date nor author are specified on the report, however, it is likely that it was written by John Sheridan who was Chambers' appointed contact within the Corporation while he was in South America, and who later served as Chambers' assistant, both on the project and in running the Rubber Development Corporation. The writing style is very similar to that found in John Sheridan's "Statement," dated November 11, 1942, to which this document was attached. Both documents were uncovered in a file labeled "Manaos" in the USAU Archives.

³⁴ Brazil had been the site of a rubber boom during the period 1910-1914; however, many of the most accessible trees had been overtapped and felled during the period. Rubber-tree seeds were taken out of the jungles and planted on plantations in Java and Malaya, where growing conditions were optimal and transportation was not so complicated. As a result of these developments, rubber production in Brazil fell precipitously. There were few experienced rubber tappers left in the country. When the Pacific plantations fell under Japanese control, Brazil's vast quantities of rubber trees seemed to offer a potential alternate source.

up to 100,000 tons per year – by 1945. He was on his way to Brazil when, on August 22nd, the Brazilian government declared war on the Axis powers.³⁵

Chambers phoned his contact in the Defense Supplies Corporation, John Sheridan, but the news was not good. There were vast numbers of rubber trees in the Amazon River basin, but the transportation network was wholly inadequate for the task of retrieving the raw rubber. Furthermore, the area was only sparsely inhabited. In order to develop the region into a major production center, the Corporation would have to bring in thousands of laborers and build homes, shops, airfields, and eventually river ports to support the industry. The airfields were a top priority, as they represented the fastest means to begin extracting rubber from the region. Sheridan took the report, and then instructed Chambers to return to Washington immediately.

Upon his return, Chambers found Sheridan had already laid out the situation for Nathaniel Weyl and George Derity, both of the Board of Economic Warfare (BEW). Weyl and Derity were hopeful that Chambers had overlooked transportation assets that might be brought into service, but Sheridan assured the men such was not the case. There were a number of other conferences and meetings, mostly so the BEW could get clarification on certain points. After over a month of consideration, the BEW released a plan for developing the Manaus region that looked very similar to the one that Chambers had submitted through Sheridan. The project was to be named the Rubber Development Corporation. Douglas Allen was to be the President of the Corporation, with Chambers serving as overall Vice President and Director of the “Amazon Division.” The entrepreneur from Kansas was going to start yet another business.

³⁵ Brazil's decision to declare war was made in retaliation for German attacks on Brazilian shipping (Lieutenant Colonel Eddy Bauer, *Illustrated World War II Encyclopedia*, H. S. Stuttman, Inc., New York, 1966, 733).

The BEW had a plan, but very little work was being done to develop the Amazon basin. By December, the operation had stagnated. The heavy equipment necessary to clear land for airstrips and housing was still in the United States and, despite promises that shipping space would be made available to transport this equipment, by the end of the year it had yet to materialize.

To help break the deadlock, João Alberto Lins de Barros (called João Alberto in the United States), the Economic Coordinator for Brazil arrived in Washington to offer a proposal.³⁶ At the Brazilian government's expense, groups of workers would be organized in the south and along their Atlantic coast and marched to collection points for transport to the major designated production centers along the Amazon, San Francisco, and Negro Rivers. Alberto estimated he could recruit fifty thousand rubber tappers, bringing them to the production regions at a rate of four thousand a week. He calculated the entire work force would be in place by February 15, 1943. This would allow the laborers over two months to clear underbrush and set up their living quarters before the tapping season started on May 1st. Under his plan, Brazil would provide the food, quarters, medical care, workers' pay, one hundred diesel-powered trucks, and build bridges as necessary for labor migration and rubber harvest. He even offered to construct airfields to American specifications. In return for all of this, Alberto asked the American pay the agreed up forty-five cents per pound of raw rubber, fifty dollars for each man arriving at a collection point, and a second fifty dollars when that man reached the production center at Manaus. Alberto also wanted empty drums for water and bridge construction; six temporary radio stations, to track his workers' movements; a Lockheed

³⁶ Details on this meeting from Reed Chambers' three-page Memorandum, December 12, 1942, John Sheridan's undated "Record of Conversation," and John Sheridan's Memorandum, December 22, 1942. All three documents are from USAU Archives.

#12, two-engine land plane for supervisory flights from Belem, at the mouth of the Amazon, to Manaos, some 450 miles away; some river steamers, twenty landing boats, and thirty-two knock-down barges, for transporting the rubber from the upper Amazon to Belem. His people would bring the rubber upriver to the coast. From there, it was the Americans' responsibility to ship it back to the United States. It seemed a phenomenal offer; one Chambers and Sheridan acted on immediately.

Back in Washington, the BEW was quick to comprehend the offer of gravity Alberto's offer. Although it would require substantially altering all the previously agreed upon plans, the Brazilians' willingness to take on so much of the burden themselves seemed worth any amount of administrative redirection required. The offer was accepted and work began early in 1943 to bring the program to fruition.

Despite Brazil's generosity, a number of related support problems fell to the Defense Supplies Corporation to solve: delivery of the requested materials, a source for the fuels the Brazilians had graciously offered to purchase; living facilities for the roughly five hundred Americans who would work in the area, including food, shelter, sanitation, and protection from the ravenous Amazonian mosquitoes; and supervision of the actual rubber tapping and collection effort.³⁷ Initially, Douglas Allen was going to handle all but the air transportation-related issues, which were to be left to Chambers. Almost immediately, however, the situation changed. Allen decided he would concentrate his full time and attention on rubber-production, leaving virtually all of the support issues to Chambers. In a very short time Chambers was headed back to the jungles of Brazil to break ground on the Rubber Development Corporation's Amazon facilities.

³⁷ Mosquitoes were a major concern for the Americans. The Coordinator of Inter-American Affairs Office agreed to supervise both sanitation and mosquito control, but relied on the Defense Supplies Corporation for both funding and technical assistance on construction issues (Development Report, 4-5).

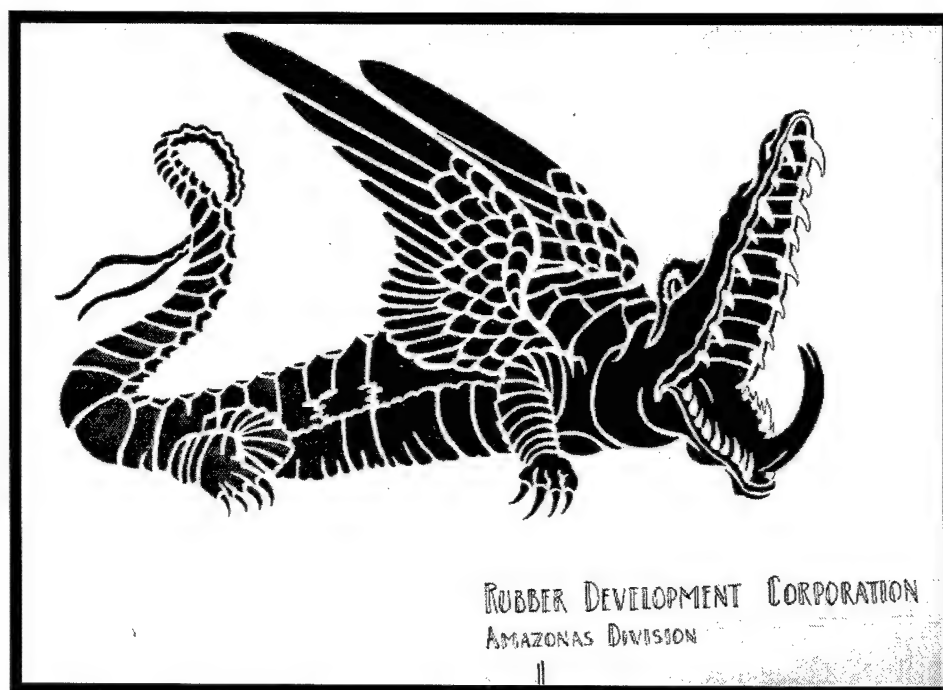


Fig. 63. Sketch of the logo for Chambers' latest business venture.³⁸

For the next six months, Chambers dashed around Brazil and back and forth to Washington to iron out the details for the new corporation. His task was complicated by red tape imposed by the complex wartime bureaucracy in Washington. He recruited experts on rubber production, who had abandoned their plantations in Java and Malaya in the face of the approaching Japanese, to train the Brazilian laborers on the latest tapping and gathering techniques. He directed construction crews building airfields throughout the region, and interacted with government officials to eliminate any obstacles he encountered. By late spring, modest amounts of rubber began trickling out of the Amazon basin. It appeared it would be impossible to reach the 50,000-ton goal the Corporation had optimistically forecast, but it still might be possible to produce at least half that amount.

³⁸ USAU Archives.

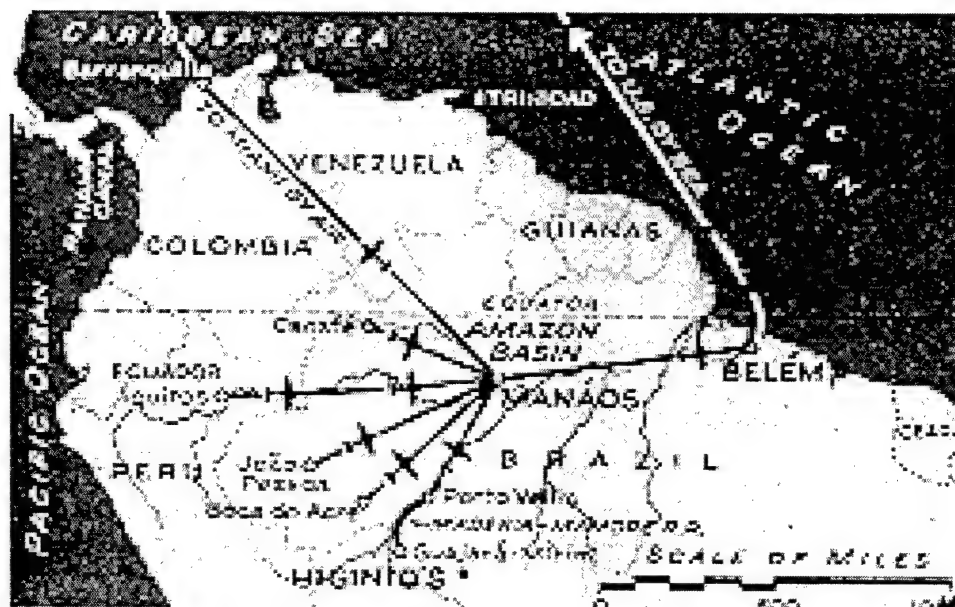


Fig. 64. Rubber was gathered throughout the Amazon basin, flown to Manaus and out of the region.³⁹



Fig. 65. Tapping Rubber.⁴⁰



Fig. 66. Chambers meets with South American officials.⁴¹

Early that summer, Chambers received a cable urgently calling him back to New York. Beebe explained that he understood his partner's commitment to his nation, but

³⁹ Holland McCombs, "War Taps Brazil's Wild Rubber," *Life Magazine*, Vol. 14, No. 21, May 24, 1943, 19. Later, when the docks were completed, the rubber was shipped down the Amazon.

⁴⁰ USAU Archives. This appears to be a photograph of U.S. rubber expert Harold Gustin who was brought into the area to develop and teach improved methods for harvesting rubber.

⁴¹ McCombs. The three men are, from left to right: João Alberto, Chambers, and Colonel Barata (first name unavailable), the Interventor for the State of Paraguay.

stressed that there also obligations to the member companies which could only be fulfilled by both men giving their full time to the group and its customers. Chambers had been away for almost two years. With the Rubber Development Company's operations underway, and work continuing at the Budd facility on the all-steel cargo plane, Chambers decided Beebe was probably right. Returning to New York in June, Beebe explained in more detail the events of the previous months. Much had happened at USAU while Chambers was away; much that required immediate attention. In response to this, Chambers penned a letter of resignation to Douglas Allen, his immediate superior in the Rubber Development Corporation. Allen forwarded the letter to William Clayton, the Assistant Secretary of Commerce overseeing the rubber project, who in turn forwarded it to Jesse Jones, Secretary of Commerce. Although they accepted Chambers' explanation, they were sorry to see him go. Clayton wrote an impassioned farewell:

I was instructed to inform you that your resignation is accepted with deep regret and with an expression of sincere appreciation of the splendid job you did in getting the Amazon project underway and the aviation division established.

I want to add to this a personal word. I have not only greatly enjoyed my association with you throughout your service, first with Defense Supplies Corporation then with Rubber Development Corporation, but I admired more than I can tell you the tremendous driving force which you have put into your activities, your unfailing courtesy and sense of humor, and your ability to work with people and get things done.⁴²

Jones also expressed his appreciation for Chambers', "valuable services on a voluntary basis," but closed with this terse reminder: "We reserve the right to draft you again in case of need."⁴³ With all that had happened at USAU during his absence, Chambers had every reason to hope he would not be tapped for additional foreign service anytime soon.

When Chambers returned to New York he found that the symbiotic relation that had developed between aviation insurers and the federal government was a thing of the past.

⁴² Clayton to Chambers, July 10, 1943, USAU Archives.

⁴³ Jones to Chambers, July 15, 1943, USAU Archives.

Beebe was spending considerable time responding to two separate government initiatives. The first was an inquiry, which called into question whether the profit structure was fair to the airlines while the second was a Congressional initiative that threatened America's aviation insurance industry's survival.

In October 1942, Paul Reiber, on the legal staff of the Civil Aeronautics Board, accompanied by Paul J. Molnar, an examiner of the New York Insurance Department, met with Dave Beebe to explain an upcoming investigation.⁴⁴ Molnar had been temporarily loaned to the federal government to assist in the first-ever federal investigation of the aviation insurance market. According to Chambers, Molnar was an extremely hostile and unpleasant fellow:

The Civil Aeronautics Board appointed a character from the New York Insurance Department ... to make the investigation. This man is noted for his lack of practical knowledge, his unfortunate personality, and his overbearing attitude toward insurance executives and his own associates in the department.⁴⁵

Chambers was equally unimpressed with Reiber, although instead of his manner, it was Reiber's inexperience that troubled the insurance executive most. The two would be regular, unwelcome visitors to the partners' firm for months to come.

The investigators were appointed by the Civil Aeronautics Board to review the actions of the top three companies, which at that time were Aero Insurance Underwriters, Associated Aviation Underwriters, and USAU. The probe had been prompted by airlines' complaints over rates they felt were too high.⁴⁶

⁴⁴ Beebe, 124.

⁴⁵ Chambers, Memo, 5.

⁴⁶ Chambers described the origin of the Board's investigation as follows:

The first detractor to attempt to tear down the then existing American aviation insurance market, and more particularly the U.S. Group, was Mr. T. E. Braniff of Braniff Airlines. ... He endeavored to put a doubt in the minds of all large purchasers of aviation insurance as to the adequacy of the policy conditions and rates of their insurance, thereby causing as much dissatisfaction and confusion as he could. As a result of his

In February, a “second front” opened for the aviation insurance market as Congress began considering legislation that would essentially place the government in competition with commercial insurance firms.⁴⁷ House Resolution 1992, introduced on February 25, 1943, called upon the War Damage Corporation to provide war-risk aviation reinsurance to America’s commercial airliners and transports. According to its originators, the intent

innuendo and unfounded charges, he was able to convince Mr. Edward Gorrell, at that time head of the Air Transport Association, that the Association as such should enter into the sport of harassing all aviation insurers. All of this agitation finally resulted in the Civil Aeronautics Board taking up the cudgel and making an investigation on their own (Chambers, Memo, 5).

Profits: “Air Commerce: Jet Insurance Probe – a U.S. Investigation,” *Flight* (English Edition), March 3, 1961, 291. This article provides an overview of the investigation, the first of several government inquiries that, in total, continued for some twenty years. According to the article, aviation insurers’ profits were “substantial” in 1942 – 25.9% of premiums – prompting the airlines to complain. USAU was able to effectively refute allegations of price gouging in the premiums simply by submitting their profits and losses for each policy year. The high profit margin for 1939 was a result of the dearth of accidents in that year, as described previously.

Policy Year	Profits/(Losses)
1934	\$ (40,535.31)
1935	(41,021.73)
1936	70,933.19
1937	(107,852.49)
1938	(63,107.93)
1939	290,287.08
1940	37,675.69
1941	72,304.77
1942	8,800.53
Total, 1934-42	\$ 227,483.80

(From “Comments of United States Aviation Underwriters, Inc., on ‘A Study of Aviation Insurance,’ prepared by the Civil Aeronautics Board,” New York, May 8, 1944, USAU Archives, 3.) In 1942, the Civil Aeronautics Board consisted of five members, appointed by the President for a six-year term. It has jurisdiction over civil aviation, including allowable rates for carrying mail, passengers, and cargo. The Board used its authority over airline rates to launch the investigation, as insurance premiums accounted for a portion of the airlines’ declared operating costs.

⁴⁷ Beebe, 159-171. The bill was not introduced to destroy the American aviation insurance market, but to extend war risk coverage to aviation similar to the war risk coverage that had been provided for commercial maritime operations in 1940 under the Maritime Insurance Act. That Act had been passed when it appeared that the London maritime reinsurance market might be unable to continue to reinsure American shipping in light of the expanding European war. There were no such concerns in the aviation market in 1943. There were other differences between the two measures: most prominently, American aviation was not subject to a threat rivaling the U-boat menace American shipping faced in the North Atlantic. An ominous difference for the aviation insurers was the fact that the Maritime Act contained a provision indicating the government insurance would lapse six months after the end of hostilities. A similar caveat was absent in the aviation bill (Donald Havens to U.S. Congress, June 4, 1943, USAU Archives, 5)

of the bill was to reduce insurance rates for American airlines, which were being largely driven by the high rates in the wartime European reinsurance market.

Beebe responded to the proposal on March 9th, offering a scathing analysis of the initiative, pointing out that it placed “the Federal Government in direct competition with private business.”⁴⁸ The bill, he continued, “Would be a stab in the back to the agents and brokers of the United States, ... would place the control of aviation insurance rates and loss payments in a Bureau of the Federal Government and would destroy a free insurance market.”⁴⁹ Beebe pointed out that the government’s intervention during the wartime crisis might destroy the entire industry, leaving air commerce without any protection for the capital in the postwar environment. He reasoned this could hinder the resumption of international trade and even hurt America’s economic stature after the war.

Seven days after responding to the House Resolution, on March 16, 1943, Beebe received Molnar’s report, as it had been presented to the Civil Aeronautics Board on February 15th. Accompanying the report was a letter explaining that Beebe was to reply to the report no later than April 1st a due date he later had extended. The report criticized the aviation insurance market’s rate structure and called for explanations. Before Beebe could respond, rumors began circulating throughout the aviation industry. The March 27, 1943 issue of *American Aviation Daily* offered the following comment:

Airline Insurance Legislation will not come up until around July, Chairman Lea (D. Cal.) believes. A recent report to the CAB, compiled by Paul J. Molnar, and according to reliable sources contending that aviation insurance rates are exorbitant, will form the basis for the Board’s report on Lea’s legislation (HR 1992). Press dispatches claim that “leaks” on the contents of Molnar’s report have already spurred aviation insurance circles to plan rate reductions.⁵⁰

⁴⁸ Beebe, 162.

⁴⁹ Ibid., 163.

⁵⁰ Quoted in Beebe, 125.

If Beebe did not feel embattled at that time, he soon would. With the help of his legal staff, he drafted USAIG's response to the report and sent it on April 2nd. In his rebuttal, he called into question both the methods and results of Reiber and Molnar's investigation. The pair had focused their entire attention on the years 1939-1941, the three most profitable years in USAU's history. As Chambers explained:

They [Reiber and Molnar] refused to take into consideration that there had been substantial rate cuts during that three-year period, the premium of which was still unearned, and that during this three year period for the only time in the history of American aviation, the airlines had gone for seventeen months without a fatal accident.⁵¹

A few days later, the initial report was given to the press, along with an announcement that the Civil Aeronautics Board had hired Dr. S. Stephen Huebner, a Professor of Insurance at the Wharton School of Commerce and Finance, as a special consultant on insurance. Huebner reviewed Reiber and Molnar's findings and concluded that there were a number of inaccuracies in their work, but not before the original report was leaked to the press.⁵²

On April 13th, Beebe was rocked by a story in the *New York Journal of Commerce* accusing him of publicly criticizing the data in the initial report. He immediately cabled the *Journal*, requesting they print a retraction.

I refer to article datelined Washington, April 12, appearing April 13 issue Journal of Commerce under [the] heading "Air Insurance Data Criticized by Beebe" containing purported criticisms by me of Report dated March Twenty-seventh, 1943, issue by Air Transport Association on subject of Airline Insurance. Neither I nor anyone on my behalf on April 12 or any other date has issued any statement commenting on such Report. My views with respect to this Report have neither been requested nor offered. The statement that comments relating to such Report have been issued by me is incorrect. In fairness to United States Aircraft Insurance Group and its Member Companies I request that prominence be given to this correction comparable to that which was given to article in question.⁵³

⁵¹ Chambers, Memo, 6.

⁵² Ibid.

⁵³ Beebe, 126.

Correctly interpreting the situation would degenerate into a lengthy series of investigations and responses, and without Chambers there to help him; Beebe decided to assemble a special committee of representatives from the firm's member companies.

In early June, USAU received a letter from Civil Aeronautics Board Chairman L. Welch Pogue, conveying a second report from Molnar and one from Huebner. Again Beebe was asked to review the reports and respond to the investigators' findings. Again consulting his legal team and special committee, he drafted a response that was mailed about the same time that he cabled Chambers, urging him to hurry back to the office.

On July 27, 1943, Beebe, Chambers, and key executives from their firm, as well as executives from their two major competitors' firms appeared in Washington before the Civil Aeronautics Board to answer questions on the aviation insurance market. Although not a member of the Board, Huebner asked most of the questions. At the conclusion of the hearings, the attendees were counseled not to discuss the proceedings in public, nor with each other. The Board would release a report covering the results of its investigation in September, when Congress was back in session.

Meanwhile, things were not going well to the north. From the beginning of the war, civil aviation had been on the decline in Canada. By 1943, business had fallen to the point that the Canadian affiliate was almost completely idle.⁵⁴ Seeing no end to this inactivity in sight, and restless to aid in his country's war efforts, Tudhope contacted Chambers and Beebe and explained the situation. He wanted to leave for a position with Trans Canada Airlines. Although sorry to lose their old comrade, they understood his need for action and offered him their best regards in his new endeavor. The Canadian affiliate remained open, with Elsie Compton serving as its wartime caretaker.

⁵⁴ Ibid., 126-127.

On November 11, 1943, the twenty-fifth anniversary of the end of his "Great War," Beebe looked back with pride over the growth of American civil aviation in the intervening years and his firm's contributions to that progress. He also wrote of his firm's sacrifices in the current conflict, now commonly referred to as "World War Two."

The USAIG has been doing its part in World War II. It has contributed approximately 50% of its male employees to Military Services, mostly to aviation, and 90% of its current business is directly or indirectly for account of the Government. The civil aviation of the 1935-40 period which the USAIG helped to build has been swept into other fields.⁵⁵

In December, the partners announced a reorganization of their firm.⁵⁶ Beebe would thereafter serve as the Chairman and Chambers would become President of the Corporation. The move was to reward Albert Smith and Richard Anderson for their service, by moving them into newly created Vice President positions. Although their staff remained small, their Aircraft Insurance Group had grown from its original four fire and four casualty companies to include fifty-nine insurance organizations.⁵⁷

The long-anticipated report from the Civil Aeronautics Board, promised for September of 1943, was finally released on March 28, 1944.⁵⁸ Its writers abandoned the accusatory tones of the earlier, preliminary reports and so it seemed to the partners that this latest release marked the end of the government's interest in the aviation insurance market. It was welcome news for the partners, the culmination of a very trying period – a period when they, for the first time in their company's history, seemed at odds with their government. Although it appeared to be over, Beebe remained embittered by the experience. In June 1944, on the sixteenth anniversary of USAU, he wrote:

⁵⁵ Ibid., 127.

⁵⁶ Beebe, 128-129.

⁵⁷ "Reorganization at US Aviation Underwriters," *Western Underwriter*, January 1944, 25.

⁵⁸ Ibid., 131.

If memory serves us correctly, the British government in order to preserve and protect its marine and aviation insurance institutions for the development of postwar trade, classed marine and aviation insurance as essential industries. The record does not indicate that the American aviation insurance underwriting market has been accorded any special or sympathetic treatment of a like character. No department of our Federal government has in recent years asked aviation underwriters what help if any they might like or recommend. There has been plenty of government support for any criticism or condemnation of our aviation market whether the criticism was properly based on fact or not. Where does the fault rest; with underwriters or with government attitude? Are we to believe that in the United States we are incapable of developing insurance executives with as much intelligence, vision, and integrity as in other nations? Surely no American wishes to admit this inability which government attitude has apparently attempted to prove is the case. Insofar as aviation insurance is concerned, the better part of much energy that should have been devoted to the war effort, has had to be devoted to answering unfounded and prejudicial criticism and to prolonged investigations, examinations and hearings designed to try and find something wrong or unsound in our way of doing business. One might even think there was a desire to discredit existing business, then destroy it and substitute something new. If in the postwar period the United States is a small factor in international insurance there will at least be some memories to recall as an explanation.⁵⁹

Although the worst of the wartime inquiries was over, there remained some residual animosity towards those firms that had opposed the government. Largely this could be ascribed to misplaced patriotism. In his adopted role as spokesman for the company, Chambers often had to address these complaints when he spoke in public. In his September 8, 1944 presentation to the Aviation Insurance Law Committee, he addressed these concerns directly. Citing the latest Civil Aeronautics Board report, he explained,

⁵⁹ Ibid., 135. Beebe had always differed with Chambers over matters involving the government, particularly where the military was concerned. Chambers felt a lasting commitment because of his World War I experience. Beebe also had residual feelings from his service, but they were not so positive. Beebe had joined the Air Corps in early December 1917 when pilots who passed their RMA test were promised the rank of First Lieutenant. After passing his test, he went on leave where he received his commission in the mail. The commission erroneously appointed him to the rank of Second Lieutenant. His commander, Garland Powell of the 22nd Aero Squadron, told him it would be better to go to Europe as a commissioned officer of any rank than as a mere cadet, assuring him the Army would straighten out the problem overseas. Despite repeated attempts to have his record and rank corrected, Beebe remained a second lieutenant for the rest of the war. Two letters from his commander, D. P. Morse of the 50th Aero Squadron, were returned with notes that no officer by the name of "Beebe" existed in the Army. Most frustrating of all was the fact that everyone that Beebe knew was promoted – some after correcting a similar error in their records. It was a sore point for Beebe, one that came up often in his conversations with Chambers (Beebe 192-193). Just before Chambers left for the Amazon Rubber Development Corporation project, Beebe told him:

All right, you go ahead and do your job, but please just before the whistle blows for the Armistice, let me go in to the Service to at least get that 1st Lieutenancy, as a football player gets into a football game just before the final whistle to win his letter" (Beebe, 193).

We issued a reply to the report in which we pointed out the many inaccuracies it contained and took issue with a number of its conclusions. We have been criticized for doing so on the grounds that it is mistaken policy these days for private business to risk antagonizing government bureaus because of the power they wield. I do not agree with this criticism. I do not believe that our democracy has fallen to so low a state nor do I believe that the members of the C.A.B. whom I know and hold in high regard, are the sort who resent a presentation of the facts.⁶⁰

Largely freed from hearings and investigations, the partners now began considering how the war might have changed the commercial aviation industry and what they would have to do to function in the postwar environment.⁶¹ In May, USAU released lengthy document for its member companies, forecasting business opportunities in the postwar environment. The partners believed there would be a huge increase in scheduled commercial airline business, followed a short time later by a corresponding rise in both company- and privately owned aviation. Countering this potential increase for business would be an influx of insurance companies that had not previously offered aviation coverage. At least some of this influx, they reasoned, would be the result of the original Civil Aeronautics Board report that was leaked to the press months earlier.⁶² It hinted at vast profits in the aviation insurance business. Although they had circulated it among their customer airlines and member companies, the final investigation report and the partner's rebuttal delivered to Congress did not get the same level of media attention as the earlier, leaked report. Because of this, they warned, a number of firms could be lured

⁶⁰ Chambers, *Insurance for Aviation*, 15.

⁶¹ Carl V. Cefola, "Insurance Men Study Post-War Aviation Field," *New York Times*, 8-9. This undated article was uncovered in a folder of newspaper clippings from Reed Chambers' files at the USAU Archives. The article quotes USAU employee Herbert E. Somerville's views on postwar American aviation and probably was published sometime between March 1944 and March 1945. In his article Cefola argued there were three schools of thought on the postwar aviation market. The first of these was pessimistic, predicting a pattern much like that which followed World War I. This view held that there would be a slump in aviation, a dormancy, which might last several years before once again business picked up. Another view was decidedly optimistic, predicting, as Cefola put it, "a chicken in every pot and a helicopter in every garage." The third view was something in between. It was this prospect which, according to Cefola, had the most adherents, and it is to this third group that Chambers and Beebe most clearly belonged.

⁶² Chambers, Memo, 6.

into the industry, if only temporarily, making the immediate postwar period a potentially lean time in terms of aviation insurance profits.⁶³

Although they had always voiced the opinion that the group method of insuring aviation might one day become unnecessary, as member companies became more adept at assessing and writing these risks, Chambers and Beebe did not predict an imminent demise for their share-the-wealth/share-the-risk approach to aviation insurance. They believed the group method of insuring – spreading the risk over many companies – would continue to provide the best means for insuring airline fleets, at least for the immediate future. They warned their member companies, however, that many clients – particularly those managing relatively small, corporate fleets – would probably prefer to approach insurance firms directly, rather than go through the group. The partners advised their companies to prepare for this influx of new aviation business.

In September, Chambers expanded on this vision in a meeting with aviation insurance executives and government regulators.⁶⁴ He described a new era in commercial aircraft, an era featuring larger, more powerful planes, probably using jet engines. He also explained that during the war the government had funded many of the prototypes that later flew in the nation's defense. After the war, he continued, the commercial industry would have to step up and shoulder those risks in order for American aviation to progress. Lastly, he explained that the anything-goes attitude he had witnessed first hand while flying combat missions in World War I would resurface among the pilots returning

⁶³ Beebe wrote:

Present volume [of insurance business] is really inadequate to properly feed all the companies currently writing aviation, even under controls furnished by group plan of operation. Reasonable to assume this condition will become more rather than less serious in early postwar period (133).

⁶⁴ Chambers, *Insurance for Aviation*, 15-17.

from this war. He warned the executives and legislators in his audience that this cavalier attitude "will lead to many needless fatalities unless prompt steps are taken to control civilian flying after the War."⁶⁵ As he had done in the past, Chambers called for increased government intervention to ensure the safety of aircraft operators and their passengers.

He concluded his speech by speculating on changes in his own industry.⁶⁶ He predicted that there would be many new entrants into the aviation-insurance market after the war. Some of these would fail, he predicted, but would at least have the satisfaction of knowing they had contributed "to an industry destined to play so important a part in our future lives."⁶⁷ Others, he continued, would be successful. "If they are," he predicted wryly, "they will have the great honor of being investigated by some Government body and accused of having made a profit."⁶⁸ Like Beebe, Chambers too seemed to harbor some lingering bitterness. Either way, he concluded, those entering the industry would find there was never a dull moment.

The partners were correct in their predictions. As the war ground to a close, many American insurers were eagerly eyeing their prospects in the aviation market. Confident in a great surge in commercial aviation, they prepared to enter the market.

As for his wartime activities, although neither of his two major projects ever produced the results for which he had hoped, Chambers could at least take some pride in what he had achieved with the Defense Supplies Corporation. His cargo plane, later designated the "RB-1" and called the "Conestoga," made its first successful test flight on

⁶⁵ Ibid., 16-17.

⁶⁶ Ibid., 17.

⁶⁷ Ibid.

⁶⁸ Ibid.

October 31, 1943, twenty-two months after the Defense Supplies Corporation's initial contract offer.⁶⁹ Despite early promises that the Army wanted a thousand of the all-steel machines, the program was canceled shortly after the first plane was delivered on March 11, 1944. By that time, thousands of DC-3s were rolling off the assembly lines. No one felt a new airframe was needed. Only seventeen of the shiny transports were built. The Flying Tigers flew them for almost three years, before acquiring newer, faster machines. All of the RB-1s were then sold to South American airlines, their original intended consumers. Watter continued to receive inquiries on the planes from their South American operators until 1955. Though it was never adopted for widespread service, lessons learned on the Conestoga proved valuable as America began converting to rolled stainless-steel airframes after the war. All modern transport aircraft can trace their ancestry in part to Chambers' cargo plane.

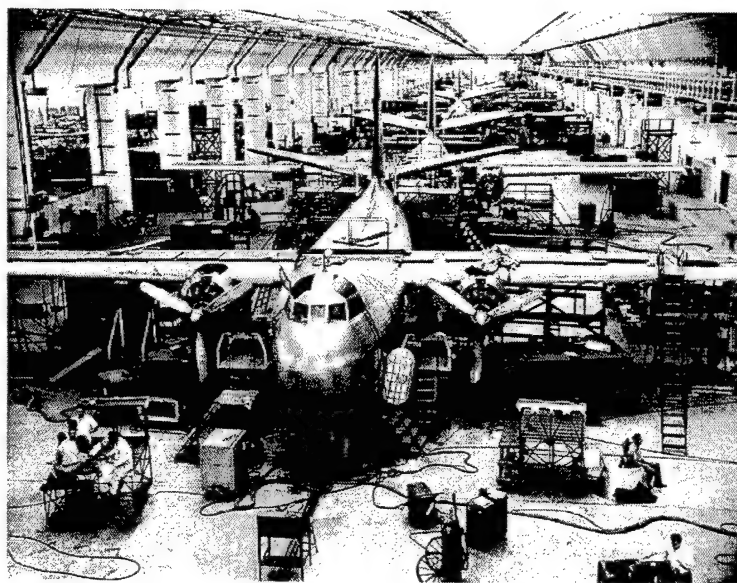


Fig. 67. *The Conestoga Assembly Line, Budd Manufacturing Company, 1944.*⁷⁰

⁶⁹ Watter, 13 and 22-23.

⁷⁰ USAU Archives.

The project in the Amazon also turned out differently than Chambers had anticipated.⁷¹ By early 1944, the Brazilian government found itself somewhat overwhelmed by the collection of American agencies operating within its borders. Similarly, the rubber tappers themselves were frustrated by American efforts to make them adopt new techniques to expedite rubber collection. The Brazilian government offered to take over the entire program itself, at its own expense, if America would simply agree to withdraw its "long list of alphabet agencies, set up at the demand of the United States to carry out its program of equipping rubber workers with sewing machines, shotguns, patent out-houses, and white flour."⁷² The Brazilian government also wanted the price increased from forty-five to sixty cents per pound. Given the additional costs of operating the various agencies and humanitarian aide programs associated with the rubber project, that was still less than half of what the rubber cost the United States under the original program. Reverting to primitive methods of rubber production, Brazil managed to produce about 25,000 tons per year for the remainder of the war.

Although the conclusion of World War II brought a temporary celebratory attitude, the immediate postwar environment promised to be a difficult one for aviation insurers. As Beebe and Chambers had predicted, the market was suddenly crowded with competitors. A rate war ensued. Chambers recalled the period with some anger when he wrote about it in mid-1948:

The erroneous charges made against the aviation insurance markets for having made exorbitant profits and the loose talk resulting from these charges created the incorrect impression in the minds of insurance company executives, who had not previously

⁷¹ Russ Symontowne, "Brazil to Sell Amazon Rubber to U.S. at 60 Cents a Pound," *New York Daily News*, February 9, 1944, 20.

⁷² Valentin Boucas, Economic Advisor in Brazil, known at the time as Brazil's "Rubber Czar," quoted in Symontowne.

written any aviation insurance, that lush profits had been made. This impression, coupled with the wild prophecies being made by government officials and some people in the aircraft industry as to the terrific potential market for privately owned aircraft caused a number of insurance companies in the United States to decide to enter the field on their own and still other insurance companies who were not so venturesome and who had shown no previous interest in aviation insurance, to make application of the various groups for membership therein.⁷³

In their greediness to acquire this class of business and through their ignorance of the constantly changing conditions, they drove rates down at a time when almost uniformly they should have been raised in order to take care of the hazards which have always been and always will be inherent to new equipment being put into operation by the airlines.⁷⁴

The partners felt the strain in their own group of companies.⁷⁵ Many new aviation concerns and even some of the older, more established firms began writing with the new, lower cost insurance companies. In response, some of the partners' firms, fearing the erosion of their market share to the new arrivals, pressed the management team to lower rates and broaden policy conditions, but the partners held firm. As Chambers recalled:

We let the eager boys have it, held our rates up, wrote policies with sound conditions and at no time during the entire period did we start a competitive war, either rate-wise or policy condition-wise. [Consequently, we] ... have watched most of our post-war competitors commit suicide, mostly through sheer stupidity and greed.

The exodus of so many cut-rate insurers would lead to other problems – further investigations into the American aviation insurance industry and, consequently, into USAU because of its status as a leader in the market. As the predicted postwar aviation boom swirled about them, the partners stuck to their conservative tack and watched as new competitors emerged and were broken in the market. By the end of the decade, they stood squarely in the forefront of the industry, one of the few survivors of the brief but stormy market competition. With the war behind them and American aviation growing in leaps and bounds, it appeared the 1950s would offer the partners the greatest opportunities for growth and profits to date.

⁷³ Chambers, Memo, 6.

⁷⁴ Ibid., 7.

⁷⁵ Ibid.

Despite the turmoil of the rates war he faced at work, the immediate postwar period was a happy time for Chambers and his family. His daughter Polly had followed her husband through his flying tour in the Southern Pacific and was overjoyed to have him safely home. Ackerly found work with the FBI after the war and was pleased to settle down. Sally too had found a husband. After graduating from Finch College in 1944, she married O. Stanley Eldredge, Jr., who would prosper in the lumber business. With their daughters married, Reed and Myrtle Chambers found themselves alone on the large Huntington estate.

Although the estate was many miles from his office and he could have easily afforded a driver, Chambers chose to ride the Long Island railway to Penn Station, where he took the subway a station near his office. From there, it was a walk of only a few blocks to the USAU offices. HE rode the subway and made that walk year round. His employees would kid him that during the summer months, they could always spot him coming down the street, even in the midst of a crowd of people, because of his peculiar habit of wearing a large-brimmed straw skimmer from June to September.⁷⁶ For the rest of the year, he would blend in under a more traditional fedora. He was truly a creature of habit.

His routine was interrupted in 1947, when he received word that his father had died. Sherman passed away on March 6th, in El Paso, Texas. Chambers and his wife went to the funeral, where they met Reed's brothers, Fred and George. The family – in particular Reed and his brother Fred – were not particularly close and it was rare that the entire family assembled.⁷⁷

⁷⁶ Vallone, Interview, 10.

⁷⁷ Ackerly, Interview, 8. Reed was the oldest, Fred the middle child, and George the youngest.



Fig. 68. Reed, Winnie, George, and Fred Chambers.⁷⁸

His routine was interrupted again in late 1948 when, after months of Beebe insisting he go, Chambers acquiesced to making a visit to London. Beebe wanted his partner to experience first hand the British aviation insurance market, both to make contacts and to determine what the American firm could do about British insurers encroaching into the American aviation market. USAU had weathered the storm of the postwar price war, when domestic insurers flooded the market, but now saw a new threat approaching from overseas. Beebe wanted Chambers to help build a plan of action to counter this latest adversary.

Chambers was amazed at what he saw, particularly the swirling confusion of activity that was Lloyd's of London. He described his visit in memoranda to his employees:

During the twenty-one years I have been in the insurance business, I have heard the statement made thousands of times that Lloyd's of London is the greatest insurance market in the world and that there are more insurance brains under one roof there than in any other place on earth. My three weeks in London convinced me that this is a gross understatement. Lloyd's is as vari-colored as the spectrum and a visit of only three weeks is so confusing that the whole thing becomes a kaleidoscope. In my opinion, it would be almost impossible, even for one who has spent his life in Lloyd's to factually describe the many segments comprising the market as a whole, let alone a Yankee spending three weeks in the place. If you took the top underwriting brains of all the stock board fire companies, stock bureau casualty companies, the mutuals, non-tariff

⁷⁸ USAU Archives. This photograph was not dated, but was probably taken in the 1960s, shortly before Winnie's death.

companies and the out and out wildcatters and put them under the same roof, you would have something approximating Lloyd's.⁷⁹

Chambers explained how Lloyd's was organized; the various, seemingly conflicting factions writing aviation policies, and his strategy for competing with the insurance giant as it moved into the American market. He summarized this strategy in a few terse directions:

- (1) If a risk is so lousy from any standpoint that you don't want it – DON'T WRITE IT. Some of our crap-shooting friends in Lloyd's will be happy to have it.
- (2) If Lloyd's competition, either direct or through one of their open letters giving binding authority to agents or brokers in this country, or through any of the smaller companies fronting for them, drives the rates below what you believe adequate, LET THEM HAVE IT.⁸⁰

Chambers was convinced the British firm was lowering its rates to often-unprofitable levels, just to get business, and would later raise those rates to bring the business back to a sound basis. He wrote:

Remember that they don't like to lose money and it is my observation that when an account goes sour on them, they either refuse to renew or want rates which, in many instances, are higher than warranted. Keep your eye on this risk and the second they try to put it on a sound basis, JERK THE RUG RIGHT OUT FROM UNDER THEM.⁸¹

In a second memorandum, he accepted blame for a live-and-let-live attitude he had fostered in USAU, of "not paying attention to what the other fellow does, minding our own business and using our God-given intelligence and letting our competitors make damned fools of themselves if they so desire."⁸² He now reversed himself, urging all his company's representatives to remain vigilant as to the practices of other firms. In particular, he wanted his sales team to watch their London competitors, to be on their toes to win back any business lost.

⁷⁹ Chambers, Memorandum, Jan 13, 1949, USAU Archives, 1.

⁸⁰ Ibid., 6.

⁸¹ Ibid.

⁸² Chambers, Memorandum, Feb 7, 1949, USAU Archives, 1.

Chambers' visit to London spurred a renewed commitment to his own firm, but also opened his eyes to the greater opportunities and perils of the market. In his way, Beebe had tried to instruct his partner on the various aspects of the insurance business during their association. The trip to London was something of the capstone course in Beebe's teaching. It was delivered just in time.

On March 28, 1950 Dave Beebe passed away. His death was sudden and unexpected. As he and Chambers had agreed in 1930, all of Beebe's interest in the company reverted back to USAU.⁸³ The two had taken life insurance policies out on one another, in addition to policies payable to the corporation. This was done so that a surviving partner would have the capital assets to buy back the deceased partner's stock. When these arrangements were made, however, Chambers was still flying. Both men believed their arrangements were designed to protect Beebe and the company – that Chambers would be the first to go.

Even though the partners' previous arrangements ensured that the company would remain intact legally, Chambers had serious doubts as to whether he could continue running things on his own.⁸⁴ He wrote later:

Dave's sudden death was the worst personal shock I ever experienced. He meant much more to me than a mere business partner – in fact, I doubt if many blood brothers have been closer than Dave and I were over the past nearly twenty-two years.⁸⁵

He assembled his staff to discuss what they should do. He found that Beebe had spent the preceding months endlessly sharing his business philosophies and insights into insurance with the younger employees in the firm. He had also continued to work with Richard Anderson and Carl Fisher to the point that both Chambers and Beebe had

⁸³ Details on these arrangements are from Chambers, "Looking to the Future of the USAIG," USAU Archives, April 10, 1950, 2

⁸⁴ Chambers, *Beebe*, 2.

⁸⁵ Chambers, "Looking to the Future," 1.

reached the conclusion their underwriting staff was “second to none in the world.”⁸⁶ Al Smith’s Accounting and Statistical Department was in equally good shape, as evidenced by periodic audits. Representatives from the member companies expressed their satisfaction with and support for the Casualty and Hull Claims Departments, leading Chambers to conclude that the Company was in excellent shape, despite the catastrophic loss of Beebe’s guiding hand.

With Beebe gone, Chambers relied even more heavily on the mechanisms his former partner had created to guide the company. The advisory councils and his own corporation’s staff, largely trained by Beebe, offered the support and guidance that USAU’s President needed to direct the firm. Chambers had great confidence in his people and remained a loyal and caring supervisor. As he had learned in the Army, he continued to reward his people for the quality of their work and valued their loyalty most highly. In return, he remained loyal, supportive, and saw to their needs.

Pat Vallone, an underwriter at the time, recalled an incident that put Chambers’ loyalty to his employees to the test.⁸⁷ Vallone had been working with a client that had insured through USAU since the late 1920s. The broker who had written the business was a personal friend of Chambers’, someone he had known since World War I. The firm decided that it no longer wanted to carry inflight insurance on the hulls of its corporate fleet of aircraft. They still wanted liability coverage, to protect the people who might be on their planes, but not the planes themselves. Vallone argued with a representative from this firm, pointing out that rates had recently declined, but he was unable to convince the executive. The policy was renewed without inflight insurance.

⁸⁶ Ibid., 2.

⁸⁷ Vallone, *Interview*, 13.

Within a few weeks, the same company experienced a loss when one of its DC-3 aircraft crashed in a remote region of South America. No one was killed, but the plane was a complete loss. The company called in to report the accident. Vallone explained that if no one was hurt in the crash, USAIG was not liable, as the hull was no longer covered.⁸⁸

A few days later, the broker – Chambers' old friend – called and tried to cajole Vallone into covering the loss. When it became obvious that the underwriter was not going to budge, the broker said he would speak to Mr. Chambers directly. Vallone got off the phone, got his supervisor, and the two went in to warn the boss. Chambers listened patiently as the junior underwriter explained how the clients had declined inflight coverage even after he had called them personally in an attempt to change their minds. "Seems like you fellows did the right thing," Chambers concluded.⁸⁹ "I'll just have to tell them that it's unfortunate and that we can't take care of this accident for them – if they want to change their coverage, they can."⁹⁰

Another way that Chambers supported his employees was through the benefits he offered. Staunchly anti-union, he claimed, "We don't need a union for our work force; we take care of them."⁹¹ The care the firm provided, however, was far in excess of what most workers could expect from a similarly sized organization. Following Beebe's death, and the reacquisition of the founder's stock, Chambers decided to allow his employees to invest in the firm.⁹² He retained a 51% interest in the business, but made the rest available to loyal employees. Mail clerks, secretaries, and office boys were all allowed to

⁸⁸ Because of the ongoing relationship between USAU and the firm discussed, Vallone asked that the firm's name be withheld.

⁸⁹ Vallone, *Interview*, 13.

⁹⁰ *Ibid.*

⁹¹ Caulfield, *Interview*, 30.

⁹² Marie Caulfield Martinez to Matthew Stafford, Jan 11, 2003.

become part owners in USAU, although subject to a buy-back restriction that required departing employees to sell back their shares when they left the firm.

Chambers also took a personal interest in his employees' health plan. His secretary recalled that he would go to Columbia Presbyterian every year for a full physical. While he was there, he would ask about medical costs – how much it cost for a private hospital room per day. Then, the next day he would come back to work and direct his secretary to get the firm's healthcare agent on the line. Chambers would quiz the agent on all the coverage limits, occasionally interrupting to complain, "That's not enough!"⁹³ Consequently, the employees' health plan kept pace with rising medical costs.

Chambers also cared for his employees' well being through a generous education program. Despite the fact he had never finished high school, he remain committed to education. Pat Vallone recalled he was just one of many employees who received funding for educational expenses related to the business.⁹⁴ Chambers took a personal interest in these students, monitoring their grades and interviewing them to determine where they would work after completing their programs. In Vallone's case, when Chambers asked if he was comfortable meeting people, the new graduate answered that yes he was; that he did it all the time as he was a shoe salesman by night. Impressed that the young man was successfully holding down two jobs, Chambers assigned him to the General Aviation Department where he immediately received a substantial raise, sufficient to enable him to quit his night job.

Despite his concern for his people, Chambers was conservative with the company's money. Employees recalled that – discounting the benefits – they could have made more

⁹³ Ibid.

⁹⁴ Vallone, *Interview*, 25.

money elsewhere.⁹⁵ Yet there was an atmosphere in the firm that made many want to work for USAU. Chambers was interested in learning about all of his employees, meeting with them in their work places to sit and talk. His secretary recalled his daily forays into the office to meet with his staff:

Every morning after he'd read his mail – and we decided what his program was for the day – he went out and walked that office. And he would walk into somebody's office, sit down, take out a cigarette, spend time talking to them – and that included the stock room. He went into the stock room and the mailroom and talked to the kids there. And he learned a lot about them and what was going on. And he always knew what was going on in the company. And he finally allowed the people to smoke at their desks because he said they were all going into the ladies' room or the mens' room to have a cigarette and tell jokes and he didn't want to miss anything.⁹⁶

In addition to visiting his employees in their office, he also occasionally invited select employees out to his estate in the Hamptons or down to St. Thomas for a cruise on the *Merposal*. His high regard for his people was amply rewarded in their loyalty to him and the firm.

Probably out of respect for Beebe's memory, Chambers did not immediately assume the vacant position of Chairman, but continued to serve as President until 1953, when he finally accepted the Chairmanship.⁹⁷ At the same time, Albert J. Smith stepped up to become the company's new President.

On June 30, 1953, at the Le Perroquet Suite of New York's famed Waldorf-Astoria hotel, executives from USAIG's fifty-seven companies joined the senior staff of USAU and leaders from the aviation industry at a gala event celebrating the insurance

⁹⁵ Caulfield, *Interview*, 30.

⁹⁶ *Ibid.*, 20.

⁹⁷ In 1953 he accepted the Chairmanship, a position he held until his retirement in 1968, when he became the Chairman Emeritus, continuing to serve in an advisory capacity until his death in 1972. Only after his death was a new Chairman appointed.

company's twenty-fifth year in business.⁹⁸ General James Doolittle was the featured speaker. Chambers kicked off the event with a toast and a moment of silence for his absent partner, saying: "Dave Beebe is not here tonight; you never get over missing a guy like Dave Beebe."⁹⁹ Harvey Bowring, who had introduced Beebe to the aviation insurance business years before, spoke at length on his admiration both for the partners and their phenomenal success in the industry. Then Doolittle took the stand. His remarks recapped the history of the aviation insurance firm, but also paid tribute to the symbiotic relationship between the insurers and the industry they backed.

Without the support of insurance underwriters, air transport as we know it today could not have come into being. The story of the developing relationship between the two fields is a good example of growth within the framework of a free economy. ... If insurance is not the very backbone of modern aviation, it is a major component of the economic bloodstream.¹⁰⁰

The relationship between insurance and aviation continued to benefit both industries, so that Chambers' company prospered during the 1950s. It found customers in both the growing commercial aviation market and the defense industry.

The end of World War II did not mark an end in military aircraft development. On the contrary, the Cold War called for technological innovations to counter an enemy far from America's shores. In 1952, the firm covered the first test flight of the Boeing YB-52 heavy bomber, the mainstay of America's strategic bombing fleet throughout the Cold War. Commercial aviation developed as well. In 1954, the firm provided coverage for the entire Boeing 707 program, including the \$15 million prototype's first flight.

⁹⁸ E. M. Ackerman, "Quarter Century Anniversary Observed by United States Aircraft Insurance Group," *The Weekly Underwriter*, July 11, 1953, 84 and "U.S. Aviation Underwriters, Inc., Was Formed Quarter of Century Ago," *The Eastern Underwriter*, July 3, 1953, 23.

⁹⁹ Ibid.

¹⁰⁰ James H. Doolittle, "Remarks," a transcript of the speech on file at the USAU Archives, 4,

It was a prosperous time for Chambers' company and should have been a happy time; however, on July 6, 1957, he was rocked by the news that his younger daughter, Sally, had died of uremic poisoning.¹⁰¹ Sally's death came as a bitter shock to both Chambers and his wife, especially since she was only thirty-two years old. Eddie Rickenbacker, Sally's godfather, joined his old friend at the Greenwood Cemetery, in Brooklyn, to lay the young woman to rest. Letters written very near the time of his own death indicate that Chambers never completely recovered from the death of his daughter. Her loss made him cling more closely to his surviving child, Polly.

In addition to this, Chambers and his firm remained under a cloud of continuing investigations from the federal government. He once discounted the lengthy governmental investigations by joking,

The saying used to be, "Imitation is the sincerest form of flattery." In these days, the phrase should be, "Investigation is the sincerest form of flattery." We in the aviation insurance business are proud to say that we have been the recipients of such flattery.¹⁰²

The grievances of the 1940s that began the first investigation stemmed from the airlines' complaints over rates, and suspicions that the aviation insurance industry was realizing immense profits. Over the years, the thrust of the investigation shifted. At first, the government seemed concerned that the group method of insuring might be construed as monopolistic, in that the management company set the same rates for all its members. USAU and its competitors were able to counter this, proving they were clearly in competition with one another. After proving this, however, the government changed its tack, finally arguing that the various competitors were in collusion with one another to set

¹⁰¹ Obituaries, *New York Times*, *World Telegram*, *New York Sun*, and *New York Herald Tribune*, July 8, 1957. Uremic poisoning is a condition caused by kidney failure. Urea is a compound $[\text{CO}(\text{NH}_2)_2]$ which is normally filtered out in the kidneys and discharged in urine. When kidneys fail, urea can build in the bloodstream to fatal levels.

¹⁰² Chambers, "Insurance for Aviation," 15.

prices, thereby effectively producing a monopoly. The Senate Sub-Committee on Antitrust and Monopoly, of the Committee on the Judiciary, was the lead element in this latest investigation. The sub-committee's argument seemed strengthened by the fact that in 1958 one of the three largest aviation insurance groups, Aero Associates, the successor to Aero Insurance Underwriters, was liquidated, with most of its business acquired by USAIG.¹⁰³ In a report on the situation, the sub-committee claimed that the elimination of this third group was, simply,

Liquidation... for the purpose, among other things, of reducing competition by eliminating a young and aggressive price competitor.¹⁰⁴

In addition to its probe into the American market, senators were also investigating allegations of collusion between the two surviving American firms and their foreign counterparts, a possible attempt to form an international aviation insurance cartel.

The probe uncovered what the sub-committee interpreted as cooperation between USAIG and the London markets, in the form of a letter from Smith, USAIG's President, to a representative of the International Union of Aviation Insurers. In the letter, Smith expressed his view that because of the extremely high costs of new jet aircraft, the risk should be spread over the entire market: "My major concern is not to have the lion's share of the business, but rather to escape a series of catastrophic losses which could well be ruinous."¹⁰⁵ Smith's letter came just as London's insurance leaders were attempting to put a stop to the cut-throat competition that threatened to catapult several firms into bankruptcy. To settle the market, these leaders created the Respect-the-Lead Agreement. Essentially the London firms agreed not to undercut each other in order to take clients.

¹⁰³ "Air Commerce," 291.

¹⁰⁴ Ibid.

¹⁰⁵ Quoted in "Air Commerce," 291.

Instead, these firms would respect any relationship previously existing between a client and insurer. At the same time, the firms agreed they would immediately increase their rates by ten percent, to adjust them back to a more realistic level following the long period of intense price competition. The Agreement was signed by the London insurance firms, but not by USAIG or its American competitor. In response to their invitation to join the Agreement, Smith wrote:

In view of such [anti-trust] laws, we cannot agree that we will follow the intent of the agreement. Whether we will, in fact, follow it is another matter. Certainly I think there is little likelihood of our cutting the London lead's rate under ordinary circumstances and we certainly look upon the agreement as one step that would improve underwriting results in what has been a wildcat market at London.¹⁰⁶

The sub-committee interpreted Smith's words as mere lip service to anti-trust laws and forwarded its investigation results to a New York grand jury for possible legal action.

The sub-committee had overlooked a great deal in arriving at its conclusions. For one thing, although correct in noting that there were only three major insurance groups and one of them had in fact liquidated, the market was by no means a monopoly. On the contrary, there were no less than twenty insurance entities – both individual companies and groups – offering aviation insurance at the time of their hearings.¹⁰⁷ Additionally, their own report revealed that the American insurance market had faced severe competition from overseas firms, particularly those in London. This was the same competition that Beebe had feared, which had prompted him to send his partner to England to investigate. Unfortunately for USAU, Chambers' insights did not protect the company from losing business to the British markets. The insurance group lost a number of clients, including El Al, Misrair, Pakistan International Airlines, and Japan Air Lines,

¹⁰⁶ Ibid.

¹⁰⁷ "Statement of the United States Aviation Underwriters, Incorporated, Submitted to Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, August 28, 1959," USAU Archives, 3.

to its competitors in England.¹⁰⁸ Also overlooked were figures depicting the actual profitability of aviation insurance in comparison to other domestic lines of insurance, which revealed that USAIG's profits were well in keeping with industry norms.¹⁰⁹ Nevertheless, the grand-jury inquiry proceeded.

Because of this investigation, executives and employees within the insurance firms were extremely careful not to engage in any activity that might be perceived as collusion to a casual observer. Employees were not permitted to be alone in a room with employees from competing firms. When representatives from competing firms did have occasion to meet, they were careful to record their conversations to document they had broken no rules. After a lengthy, costly investigation, the grand jury concluded that no antitrust laws had been broken and, in the early 1960s, the long period of investigations finally concluded.

The end of the government inquiries was probably a bittersweet moment for Chambers and his staff. Although they were undoubtedly overjoyed that the investigations had found no improprieties within his firm, they also knew that the stress of the investigations had worn heavily on Dave Beebe, who had not lived long enough to see the company's final vindication.

Now approaching seventy, the 1960s were a period of transition for Chambers. Financially secure, he increasingly relied upon the people he and Beebe had trained and the mechanisms the two had built to guide the company, while he took more time to enjoy his family and his hobbies. Although USAU would go on to cover many notable risks, open new branch offices, and continue as a worldwide leader in aviation insurance,

¹⁰⁸ "Air Commerce," 291.

¹⁰⁹ Ibid.

Chambers' role in the firm became that of a mentor and advisor, a role he would continue to fulfill until his death in 1972.

Epilogue Golden Years

Although Chambers was in his sixties and no longer as involved in the day-to-day operations of his company, he still traveled extensively, visiting clients and lending his celebrity to events supporting aviation. He also began pursuing his personal interests. He took to gardening and was particularly proud of the huge tomatoes he grew. Visitors to his estate were always treated to a tour of his garden and a taste of his famous yellow, orange, and red beefsteak tomatoes.¹

He had ample opportunities to share his crop with his coworkers at the annual Ten-Year Club's clambake. As the firm grew and more employees qualified for membership, the parties became more extravagant, eventually incorporating a number of humorous rituals. One involved Chambers and the Ten-Year members dressing up in native garb, including face paint and elaborate headdresses. Chambers would serve as master of ceremonies in an old top hat, suit coat, and bathing suit. There would be an initiation rite, followed by plenty of fresh baked clams, and liquor. These bacchanals were the highlight of the USAU social calendar.

¹ Ackerly, *Interview*, 25.



Fig. 69. Chambers, the "Big Kahuna," with Florence Kessler and Jay DeCarlo.²

Another social gathering that became a regular part of Chambers' life was the Wings Club. The Club described itself as a:

[N]on-profit, patriotic organization maintained largely by members of the aviation industry as a medium of exchange of aviation ideas and an aid to the development of all phases of American aeronautics.³

Everyone who was anyone in aviation was a member. Chambers was the organization's president for 1945-1946 and continued to serve as a club officer for many years after that. It was a place for men connected with the aviation industry to gather and discuss business. In addition to a monthly luncheon, the Club also sponsored a series of dinner lectures where members could talk to leaders in aviation. Chambers was very fond of the Club. He and Rickenbacker often went to lunch there during the latter's frequent visits to New York.

Chambers also took an interest in art, particularly aviation art. One artist he was particularly fond of was Eric Sloane, a painter renowned for his depictions of clouds. Chambers would stand admiring a Sloane painting, explaining to anyone within earshot, that this was indeed how the clouds looked to a man flying among them.

² USAU archives. Kessler, on the left, was a file clerk at the time and Jay DeCarlo was a typist.

³ *Wings Club Yearbook, 1944-1947*, 5 (USAU Archives).

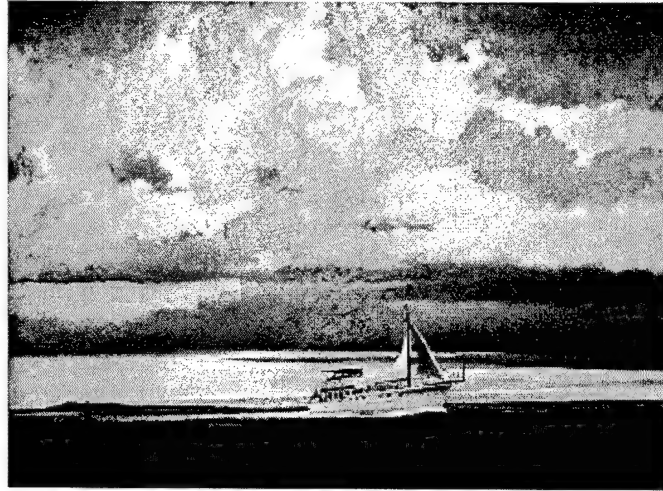


Fig. 70. Chambers Commissioned Eric Sloane to paint the Merposal sailing in the Caribbean.⁴

Another series of aviation art works that interested Chambers was a collection of photographs collectively known as the Cockburn-Lange Collection.⁵ The photographs depicted World War I aircraft engaged in phenomenal dogfights, complete with burning airplanes and pilots tumbling through the sky. Supposedly, a British pilot took the photographs. He was alleged to have mounted a captured German camera on his S.E.5 so that he could activate the shutter when he fired his guns. The pictures were first displayed publicly at an aviation art exhibit sponsored by G. P. Putnam's Sons, where the spectacular images won rave reviews. A reviewer for the show explained that the photographs had been brought to America by Mrs. Richard Cockburn-Lange, who would say only that they had been taken by an RFC pilot.

Two of the pictures showed up a year later in *The Illustrated London News*, under a rather redundant headline: "The Most Extraordinary Photographs Ever Taken of Air

⁴ Author's photograph of the Eric Sloane original, which is currently in the possession of Polly Chambers Ackerly.

⁵ Except where noted otherwise, the material from this section is from Sandy Colton, "Rare WWI Shots in Dream Find," *Staten Island Advance*, November 22, 1981 (page number unavailable: from a clipping found in USAU Archives) and Edward Park, "The Greatest Aerial Photos Go Down In Flames," *Smithsonian*, Volume 15, Number 10, January, 1985, 103-109.

Fights in the Air.”⁶ In 1933, the entire set of fifty-seven images was published in the book *Death in the Air, The War Diary and Photographs of a Flying Corps Pilot*. The book’s Foreword explained that because it was against RFC regulations – an offense worthy of court martial – to take unofficial photographs in battle, the book had been kept under wraps for years. It was only after the author’s death that the manuscript was prepared for publication. Then, supposedly to protect the author and his family, the manuscript was purged of any details that might divulge the pilot’s identity or that of his squadron. Even the photographs had been retouched to remove any squadron markings that might reveal the source of the images.

Controversy erupted over the photographs in 1932 when C. G. Grey, editor of Britain’s aviation standard, *The Aeroplane*, noted that none of the planes pictured had been in use before late summer, 1917, just fifteen months before the Armistice. Given that the camera described only took one photograph per flight, and by the anonymous pilot’s own admission he was a poor photographer, Grey estimated that the man must have had extraordinary luck and flown a phenomenal number of missions to capture so many combat images.⁷ Both the RAF and Imperial War Museum declined to purchase copies of the photographs until they were proven to be authentic.

Chambers first met Gladys Maud Cockburn-Lange just prior to World War II, in Greenwich Village, where he was “flabbergasted” by the images she showed him. At that time, Cockburn-Lange had the original glass plates with her. He met her again in

⁶ Park, 105.

⁷ Grey’s calculations were based on an average ratio of good photographs to duds, the fact that most pilots reported seeing action on only about a third of third of their patrols, and the author’s admission that he had returned many times with poor or blank images. Just to capture the 57 images, Grey estimated the pilot would have encountered enemy aircraft some 240 times and flown over 700 missions in fifteen months – an unheard-of record (described in Park, 105).

1945 in Havana, Cuba. He described her as “a typical, shy English woman and extremely modest.”⁸ In the course of the two meetings, Chambers was given thirty-two photographs. Marie Caulfield Martinez, his secretary for twenty five years, recalled that he loved the photographs, explaining to anyone who was interested that the images were “exactly what it looks like when you’re up there.”⁹ Neither Douglas Campbell nor Rickenbacker – two who had been “up there” – agreed with him. Both the former aces believed the photographs were fakes, but they could not dissuade Chambers. The images were proudly displayed along the office walls in the USAU headquarters for the remainder of his life.

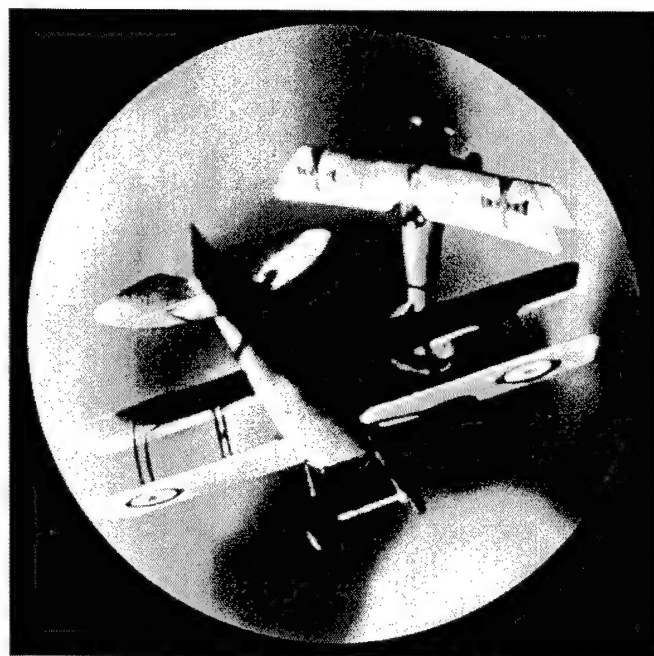


Fig. 71. One of the two Cockburn-Lange Photos that appeared in the *Illustrated London News*, October 1932.¹⁰

Chambers defended the photographs’ authenticity emphatically, although he based his opinion almost entirely on his own experience. The photographs looked like the air

⁸ Quoted in Park, 109.

⁹ Caulfield, Interview, 24.

¹⁰ Back-jacket illustration from *Jane’s*.

war he remembered: "I can say that all of the questions as to their authenticity and the detailed criticism are completely refuted by the pictures themselves, and I think the only way one can convince himself of this, is to read the various criticisms and then look at the pictures."¹¹ Reflecting on the controversy, he once remarked, "If I had any idea of their future significance and the controversy they would create, I would have spent the time then, getting all the facts as to the authenticity of these pictures, which would have been very easy to do at the time."¹²

Chambers willed his collection to the United States Air Force Museum at Wright-Patterson Air Force Base, outside of Dayton, Ohio, where they remain on display.¹³ In January 1985, *Smithsonian* published the results of an investigation made by the National Air and Space Museum, which concluded that the photographs were in fact elaborate forgeries. Gladys Maud Cockburn-Lang, the shy, modest English woman had in fact been Betty Archer, a Yorkshirewoman who had served in World War I with the Women's Royal Air Force. It was here that she met her future husband, Wesley Archer, an actual RFC pilot, who had been shot down in October of 1918. Wes Archer concocted the scheme, along with the false identity for his wife in 1927, when he began taking his photographs and writing *Death in the Air*. Perhaps it was better that Chambers never learned his cherished photographs were fakes. For him they remained a tangible and sharable link to his past glory.

¹¹ Quoted in "Acknowledgments," *Cross and Cockade*, the magazine of the Society of World War I Aero Historians, February 1972, 247.

¹² Ibid.

¹³ Marie C. Caulfield to Mr. Elvin Seibert, December 4, 1973 and Marie C. Caulfield to Sandy Colton, December 2, 1981. Correspondence from Caulfield's personal collection. Caulfield was Chambers' secretary for twenty-five years and helped his family settle details of his estate after his death.

For Chambers, one of the greatest joys of his life was cruising at sea. During his years with USAU, he bought progressively larger boats, until finally, in 1954, he ended up with the custom-built, steel-hulled *Merposal*.¹⁴ The boat, built by an Amsterdam firm, was his prize possession, and undoubtedly his favorite place in the world. He kept the *Merposal* anchored at Charlotte Amalie, on St. Thomas, in the Virgin Islands, under the watchful eye of his skipper, an affable local sailor named Clarence Clark. Chambers visited the islands often, to cruise aboard the *Merposal*, frequently bringing employees and clients along to share in the experience. As he explained to his secretary, Marie Caulfield, "it's not much fun having this boat unless you have friends to share it with."¹⁵

Although Clarence was the captain, when Chambers was on board, he was very clearly the skipper. Life on board the *Merposal* revolved around his personal schedule. Employees, friends, and clients joining Chambers for a cruise often referred to him as "Captain Bligh," because of his strict shipboard rules.

Always an early riser, Chambers ensured his guests never slept late by ordering the crew (Clarence, a mate, and the cook) to start the generators first thing. The generators roared to life in the compartment right next to the guests' sleeping quarters. After a quick shower and shave, guests assembled for breakfast. The cook prepared a sumptuous meal each morning, which the mate then served. Chambers told each of his guests that they should take all that they wanted and eat all that they took. The mate will only serve you once, he explained. After that, he needed to get back to his shipboard duties.

Another of Chambers' rules was his guests were not allowed to drink while the yacht was underway. Pat Vallone recalled his boss' explanation:

¹⁴ Ackerly, *Interview*, 4.

¹⁵ Caulfield, *Interview*, 19.

Hard liquor? You can never tell. Somebody gets too much to drink [while] we're underway, you fall overboard, and we got to stop and come rescue you – hopefully we rescue you! It spoils the rhythm of the whole trip!¹⁶

Once the ship was at anchor each evening, however, Chambers permitted a cocktail hour. His guests could drink as much as they wanted during the hour, but when the time had elapsed, and dinner was served, no more liquor would be poured. Occasionally a guest would over-indulge during the cocktail hour. Chambers would quietly observe the guest, not saying anything directly, but the next morning, he would have the cook prepare a breakfast treat especially designed to remind the guest of his transgression. Poached eggs hollandaise – eggs in a cream sauce – and kippers were two of Chambers' hangover favorites.

Another of Chambers' shipboard rules involved smoking. A heavy smoker himself, he never denied anyone an opportunity to smoke, however, he was insistent that matches not be used on his yacht. He explained to each guest that there was a drawer in the galley filled with Zippo lighters, and that they should take one of these lighters to use for smoking onboard. He was worried a discarded match might start a fire while at sea.¹⁷

Chambers also insisted that any female guests traveling without their husbands sleep at a guest house near *Merposal's* berth in St. Thomas.¹⁸ Each morning that he had female guests, he would arrive very early, knocking on their doors to escort them down to the docks and onto the yacht for breakfast. After breakfast they would set sail for a day of fishing and swimming, then return to the dock that night. Fearing for their reputations, he also asked his female visitors not to go to any of the local taverns while they were at St. Thomas.

¹⁶ Vallone, *Interview*, 4.

¹⁷ *Ibid.*, 4.

¹⁸ Caulfield, *Interview*, 19.

During the day, the guests were treated to snorkling and swimming, fishing, or cruising through the bright blue Caribbean waters. Chambers was an excellent swimmer and prided himself, even into his sixties, on being able to hold his breath longer than any of his guests. He would also display his swimming skills and challenge guests to sit-up contests, competitions he usually won handily. In every aspect of his work and play, he remained fiercely competitive. It was a trait that sometimes got him into trouble, especially during the cocktail hour.

Whether it was his conservative politics –marked by an unwavering support for Barry Goldwater – or his stance against organized labor or religion, conversations on board the *Merposal* were sometimes highly charged. Pat Vallone, a coworker, recalls being warned about the cocktail conversations by a senior colleague before leaving for his Caribbean cruise. If Chambers engages you one on one, the friend explained, do not expect anyone to come to your rescue, nor should you attempt to rescue anyone else. The boss would not permit that. He might ask you questions until you feel as if you are being interrogated, the coworker continued, but you will have to carry your own.

Vallone had ample reason to recall that advice while on his cruise. One night the boss strayed into the subject of religion, calling into question the theological support for the Pope's authority on earth. Perhaps feeling freer to object as a result of the liquor he had just consumed, Vallone, a faithful Catholic, called the boss on his argument: "I don't think you know what you're talking about, Mr. Chambers," Vallone announced defiantly.¹⁹ The other three guests – all coworkers at the firm – turned toward the young man, amazed at his temerity. "And if you don't know what you're talking about,"

¹⁹ Vallone, *Interview*, 11.

Vallone continued, “then you shouldn’t be discussing it.”²⁰ There was a stunned silence. Vallone knew he was on his own. Chambers sized up his young employee, and then realizing he might have gone too far, shrugged his shoulder, turned to his other guests, and resumed talking, although subtly changing the subject. Later, after everyone had gone to bed, Chambers went into the guest cabin to ask Vallone and another coworker on the cruise, Frank Lynch, to step out onto the deck with him.

The three men went out into the darkness. Millions of stars glistened against the dark sky while gentle waves wafted all around them. They stood in silence for a few moments, awed by the beauty of the scene, before Chambers broke the silence:

Fellows? Maybe we don’t believe in God the same way, but I know that somebody had to do this. I know there’s a being beyond us – that there’s somebody probably after us, and this just couldn’t be an accident.²¹

Perhaps it was as close as he could come to an apology. It meant a great deal to Vallone and Lynch. Vallone explained later that it was the boss’ soft side; a side he did not like to show in public, but which those who knew him saw from time to time.

Because he traveled to the islands so frequently, he became something of a minor celebrity in the region. He and a number of other executives, Casey Jones, John Sheridan, Roger Humphries and others, used to gather frequently for meetings of what they called the St. Thomas Garden Club.²² In actuality, it was just some old friends getting together to have some drinks and discuss old times. Anticipating that the beautiful surroundings would one day become valuable for vacation travel, the members of the Garden Club decided to buy into some choice property on St. John Island. For years the group discussed how they would develop the area; however, when Lawrence

²⁰ Ibid.

²¹ Ibid., 12.

²² Information in this paragraph from Caulfield, *Interview*, 22.

Rockefeller offered to buy the property and to develop it himself, the group elected to sell. Rockefeller bought the shorefront property and created the Caneel Bay resort area. Chambers and other members of the Garden Club, however, retained ownership of property overlooking the beautiful resort.

In addition to his Garden Club, Chambers also took every opportunity to reunite with his fighting companions from the 94th, and even visited Memphis from time to time, to join with his old Chickasaw Guards outfit. Except for his time aboard the *Merposal*, these trips were some of the happiest moments of his later years. In November of 1963, Chambers, then the retiring commander of the Chickasaw Guards, had the honor of hosting a luncheon for Brigadier General Everett R. Cook, USAF, Retired – the same Everett Cook he had tried to shoot down during World War I. In 1967, Chambers was invited to attend a reunion in honor of the fiftieth anniversary of Selfridge Air Force Base. Selfridge was then the home of the 94th Fighter-Interceptor Squadron, the direct descendant of Chambers' own 94th, and still using the original hat-in-the ring insignia as its official logo. While they were here they met with Eddie Rickenbacker, Fred Ordway, Douglas Campbell, Colonel Hugh Martin, who was the current commander of the 94th, and a number of other Air Force officers and aviation enthusiasts.

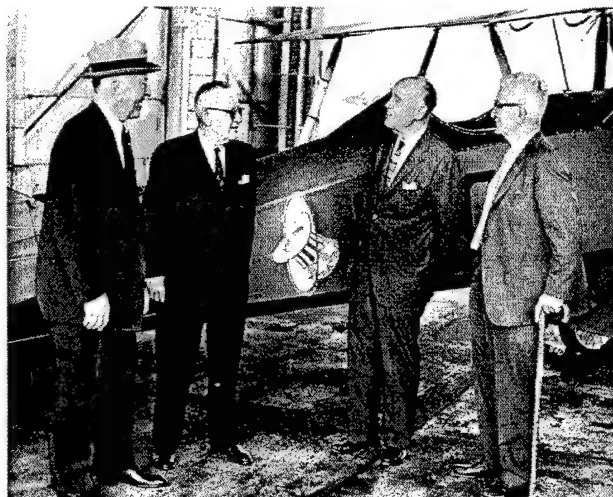


Fig. 72. Rickenbacker, Chambers, Ordway and Campbell at 1967 Reunion, Selfridge Air Force Base, Michigan.²³

Shortly after leaving Michigan, Chambers received a letter inviting him to review the Air Force's Interceptor Weapons School at Tyndall Air Force Base, Florida. He arrived the night of Monday, September 25. The following morning, he was provided a breakfast and a preflight briefing, then he and Major Dan Schuyler suited up and climbed into the cockpit of an F-106. The World War I ace was going to take the controls of a fighter just once more.

Although it was the first time he had taken the controls of a plane since the 1930s, the seventy-three-year-old ace performed ably on his flight. The pair flew out over the Gulf of Mexico, even breaking the sound barrier before returning. He climbed out of the cockpit beaming: "This is the most fantastic experience of my life."²⁴ It was a far cry from the Nieuports and Spads of his early days. He said it was like, "riding down the road in a horse and buggy and returning in a Rolls Royce."²⁵

²³ Official USAF photograph, USAU Archives.

²⁴ "Spad to F-106," *Air Force Times*, October 25, 1967.

²⁵ Ibid.



Fig. 73. Chambers in his pressurized flight suit, ready to fly the F-106, September 26, 1967, Tyndall Air Force Base, Florida²⁶

In 1969, at age 74, Chambers retired from USAU. His retirement offered another opportunity for his old friends, coworkers, and colleagues to gather and reminisce about the past. His retirement was covered in the major insurance and aviation trade publications, most of which featured lengthy biographies and photographs from his World-War-I service. Robert Young, editor of *The Weekly Underwriter*, explained for his readers the expanded coverage given Chambers' retirement:

Inasmuch as men such as Reed M. Chambers are rare, in general and in the insurance business, *The Weekly Underwriter* does not think it inappropriate to extend its best wishes as he retires, and publish somewhat more than the usual notice accorded such action.²⁷

²⁶ Official USAF Photo, USAU Archives.

²⁷ Robert Young, Jr., "A Great Career: Chambers, Aviation and Insurance Pioneer, Retires," *The Weekly Underwriter*, Vol. 199, No. 3, July 20, 1968, 18.



*Fig. 64. Chambers on the occasion of his retirement*²⁸

During his tenure, the USAIG had grown from its original eight member companies to a total of twenty-eight member and thirty-seven associate-member companies. In 1968, the company boasted it was “the oldest and largest single source of aviation insurance in the free world.”²⁹ Although officially retired, Chambers maintained an office in the corporate headquarters and visited frequently for the rest of his life.

In 1970, he was diagnosed with bladder and lung cancer.³⁰ He was under the care of internist Dana Atchley, at Columbia Presbyterian Hospital, who turned him over to John Lattimer, a prominent urologist. Recognizing his condition as terminal, Lattimer asked Chambers if they could do some experimental medicine and tests on him, which he permitted. By mid 1971, it had become obvious that the doctors were not going to be

²⁸ USAU Archives

²⁹ Company press release, supplemental to announcement on Chambers’ retirement, entitled: “Additional Data on Reed M. Chambers, Aviation Pioneer,” undated (the original announcement, entitled, “Reed M. Chambers, Aviation and Insurance Pioneer, Retires,” USAU Archives, was dated July 15, 1968, so this release was subsequent to that), USAU Archives, 2.

³⁰ Caulfield, *Interview*, 21-22

able to find a cure and that he did not have much time left. Chambers decided to go down to the Virgin Islands and spend his remaining days on the *Merposal*. There he entertained old friends, colleagues, and his Garden Party associates on short cruises around the islands.

His wife and daughter had been down to see him for Christmas, but were summoned again less than two weeks later, on January 7, 1972.³¹ Cowell Taylor, the doctor at Yacht Haven, was worried that Chambers' condition had deteriorated beyond the point that the crew could adequately care for his needs. Taylor felt his patient needed full-time nursing care. Myrtle and Polly returned to St. Thomas immediately.

They arrived to find just cause for Taylor's alarm. Reed Chambers was hemorrhaging and passing blood. The captain of the *Merposal* had already hired around-the-clock nurses, to take care of his boss on board the yacht. The doctor came to check on Chambers Sunday morning, January 16th, and was very concerned that his patient's lungs were filling with fluid. Taylor advised Polly to have her father sit up as much as possible, but it made no difference. He died early that afternoon.³² He was, as he had wanted, on board his beloved *Merposal* at the time of his passing.

Despite his wife's objection – she wanted her husband buried beside Sally in Brooklyn – Chambers' will stipulated that he be buried at sea.³³ With Casey Jones' assistance, he had drawn up detailed plans for his final internment. He had even reviewed the plans with Jones on the 15th, the day before he died.³⁴

³¹ Marie Caulfield to Arthur Holgate, March 6, 1972, 1-3, copies in Ms. Caulfield's and author's possession.

³² Certificate of Death, Virgin Islands Department of Health, January 16, 1972. Dr. W. E. C. Taylor certified the death, which was caused by "Carcinoma of Lung [and] carcinoma of bladder."

³³ Caulfield to Holgate, 1.

³⁴ Ibid.

On the morning of January 18th, there was a small service at the John Thomas Memorial Chapel in St. Thomas.³⁵ His Garden Party colleagues served as honorary pallbearers: Ben Yates, E. L. Robertson, Lionel Arthur, Henry Jackson, Harry Goodheart, Donald McLaughlin, Bud Hurlburt, Larry Henderson, Casey Lambert, Bert Fahnstock, and Casey Jones.³⁶ Following the brief service, the entourage followed a hearse to the dock where *Merposal* sat anchored. Benjamin Yates, harbor master and fellow Garden Party member, had arranged to have all the roads blocked off along the route. At the dock, the lead casket was loaded on board and, as Chambers had requested, the members of the Garden Party boarded. Polly and Myrtle went back to their hotel, while the yacht's captain started the motors. Joyce Clark, the captain's wife, was the only female on board. In addition to his cronies from the islands and the crew, there were three other men on board. Jack Ackerly, Chambers' son-in-law, was on board per Reed Chambers' instructions. Also present were Jim Fortuna, then president of USAU, and a second executive from the firm. Once the crew ensured everything was ready, the captain slowly pulled the *Merposal* away from the dock for Chambers' final cruise.

³⁵ The funeral and burial at sea are described in a letter, Marie Caulfield to F. W. Conant, March 20, 1972, 1-3, copies in Ms. Caulfield's and author's possession. Marie got the details from Jim Fortuna, upon his return from the services. Despite his popularity, few of Chambers' long-term friends attended the funeral. Marie explained in a letter to Chambers' brother, George:

Please be assured that the family perfectly understood your not coming to St. Thomas for the funeral. They really did not want a lot of people there and while I was prepared to go myself, Mrs. Chambers decided against it. Eddie Rickenbacker did not go down, nor did a lot of very close friends he saw rather frequently over the years. The way the funeral was planned, it did not lend itself to a lot of mourners and while we had a number of inquiries about a memorial service in New York at a later date, the company decided against it. We felt Mr. Chambers would not have wanted it and I am sure those present in St. Thomas and the manner in which the funeral was conducted suited him just fine. (Caulfield to George Chambers, March 6, 1972, copies in Ms. Caulfield's and author's possession, 3.)

³⁶ "Aviation Pioneer Reed Chambers Dead at 68 (sic)," *The Daily News of the Virgin Islands*, January 18, 1972. Chambers was 77 when he died.

The coffin lay on a platform made especially for the occasion. It was draped with an American flag on which was laid Chambers' burgee, depicting a broken aviator's wing.³⁷ About ten miles out to sea, the captain stopped the boat and the company gathered around the casket. After a few moments of silence, the coffin was rolled off the platform and slipped beneath the waters. The men were silent as they looked at the spot where they had placed their friend, then the mate, began reciting the 23rd Psalm: "The Lord is my Shepherd...." Those present were moved to tears.

That captain returned to the helm to begin the trip home while the men from the company headed topside, leaving Ackerly and the Garden Party members alone below. Per Chambers' final instructions, his old friends gathered to toast and reminisce over their fallen friend. The mate kept the drinks flowing and served the mourners crackers and cheese – the standard fair for their gatherings when Chambers was alive.

Under the terms of his will, *Merposal* was left to the International Oceanographic Foundation of the University of Miami, to either use for research or sell for the proceeds.³⁸ His World War I memorabilia, including his uniforms, ribbons, medals, and other paraphernalia associated with his service, was left to the Air Force Museum, at Wright-Patterson Air Force Base, Ohio.³⁹ Chambers also left his collection of Cockburne-Lang photographs, much of his personal library, a small model of his red-white-and-blue Spad XIII, and the Hat-in-the-Ring insignia that he cut from his plane and displayed in his home.

³⁷ A burgee is a nautical pennant, used for signaling.

³⁸ Caulfield to Holgate, 3.

³⁹ The material Chambers bequeathed to the Museum is detailed in a series of letters between Marie Caulfield and Royal Frey, then the Museum's Curator, specifically: Caulfield to Frey, January 9, 1973 (with list of books attached); Frey to Caulfield, March 28, 1973 (Spad model). Copies of these letters are in Mrs. Caulfield's and the author's possession. The uniforms and ribbons are documented in a letter from Richard L. Uppstrom, then Director of the Museum, to Polly Ackerly, January 6, 1984. Copies of this letter are in Mrs. Ackerly's and the author's possession.

Immediately upon being notified, USAU released word to the media and cabled all of its member companies and key insurance firms around the world. Telegrams, letters, and cards poured into the office for weeks, offering condolences and tributes. Perhaps the most notable of these were those written by Chambers' old friends from the 94th.

Rickenbacker wrote: "Terribly shocked to hear of Reed's untimely passing and we naturally regret his loss but we can be thankful that the good Lord did not let him suffer longer."⁴⁰ Douglas Campbell hand wrote a note describing his view of his old friend:

It has always seemed to me that although he liked, by his words, to make himself appear pretty hard-boiled, it was evident from his actions that actually he was a very compassionate person. And of course the bond between those of us who were colleagues in that exciting enterprise 54 years ago, in which a man's real value stood out so quickly and so clearly, was something which could never grow cold.⁴¹

Campbell had it right: Reed Chambers was a man whose compassion stood out, despite his best efforts to hide it behind a tough exterior. His concern for his comrades during his time in the military, and for his friends, family, and employees in the years after, clearly demonstrated this. More notably, however, was his perseverance. Despite many setbacks, both personal and professional, both in war and peace he worked tirelessly for the things in which he believed. Above all, Reed Chambers believed in aviation. What started as an ambition for adventure – to soar among the clouds – grew to a passion. His goal was to support and expand aviation so that America could realize its full economic and military potential.

America's success in aviation owes a great deal to Reed Chambers. He was there at the beginning when America was first learning to fly, joined the nation in fighting its first air war, pioneered commercial applications for flight, then cofounded a mechanism to

⁴⁰ Telegram, Eastern Airlines, Eddie Rickenbacker, to USAIG, Jim Fortuna, Jan 17, 1972. USAU Archives.

⁴¹ Campbell to Caulfield, Jan 18, 1972, copy in Ms. Caulfield's and author's possession.

ensure the safety of capital investments, virtually eliminating the financial risk that restricted aviation's growth in the early days.

Flying, however, was more than a commercial enterprise to Chambers. It remained a very personal experience. Firmly anchored in the experiences of his own past, he strode boldly into the future, learning about and applying technological innovations – particularly those related to personal safety – to help his beloved industry to prosper. Its success was and remains a tribute to his own success, a soaring reminder of one man's dream, brought to reality, to benefit an entire nation.

Conclusion

Looking at Reed Chambers' humble beginnings, it would have been difficult to predict his eventual rise to become a leader in the American aviation insurance industry. On the contrary, he seemed more suited to a career in sales, or working with his hands. Yet his background shaped his personality in such a way that he was able to capitalize on opportunities and overcome failures on his path to his ultimate success. More important than his background, however, were the opportunities he encountered during his life. Chambers was first and foremost, a man of his times. His move to the forefront of his trade was at least partially propelled by the kinetic energy of the fledgling American aviation industry in the interwar years, as manufacturers and operators sought to innovate new applications for their flying machines. Caught in the whirlwind of rapidly advancing technology, he adapted. His adaptation, in the four key areas cited in the introduction of this volume, provided the basis for Chambers' success. As a reminder, the four areas presented were:

- (1) The development of technology,
- (2) The four factors supporting commercial aviation (pilots, planes, markets, and capital),
- (3) The relationship between government and business, and
- (4) Chambers' own relations with subordinates and peers.

Before delving into those areas, however, it is useful to review his background to understand the foundation on which his entrepreneurship would be built.

As a young boy, his mother Winnie had managed to cultivate in him an insatiable curiosity. When this curiosity found its focus upon the idea of flight, it led to exhaustive research in aeronautics, and an endless array of experiments with kites and other apparatus. When he finally saw his first airplane, that afternoon in Colorado Springs, Chambers was able to converse intelligently with Parmelee's mechanics, further expanding his knowledge. This desire to learn remained an important aspect of his character throughout his life. His eclectic interests, from the processing and sale of skunk juice to the craft of flying airplanes, from sailing to mathematics, and from space travel to gardening, served him later in life as well. Not only did they fuel his recreational pursuits, but they kept him in good stead as he struggled to grasp the new technologies his firm would have to understand in order to provide coverage.

Strength of will was the second most important quality revealed in Chambers' early life. Whether this was an innate trait, or one that was learned in response to his father's firm will, it equipped him with a level of perseverance that kept him on track even during the worst times. Certainly it had its negative side. His bullheadedness contributed to his failure to ever finish high school and undoubtedly created some enemies over the course of his life. Yet it also kept him pushing for pilot training, even when the hope seemed dim at best. During the war, it pushed him back into the skies and into increasingly dangerous positions as he stubbornly resisted his restraining fears to earn acclaim as an ace. Later in life, this stubbornness yet pushed him to doggedly champion his industry in

the face of investigations and inquiries, never surrendering or giving up hope for his ultimate vindication.

As he transitioned to independence, another quality became pronounced in his character, an ability to communicate with others. He used this ability to as a conduit for attaining results. Despite his lack of formal schooling, Chambers was able to project his indomitable will in such a manner that subordinates, peers, and those from the higher social classes fell under his spell. His talents earned him success as a salesman, first with the real estate company at Vero Beach, and later selling cars to the wealthier families in the Memphis area. He also used his skills on both his commanding officer and the Governor of Tennessee to obtain the pilot training for which he longed. They were also important in his struggles to secure financing for his various business ventures.

In addition to his ability to influence others, Chambers also possessed a level of flexibility that was truly remarkable. Throughout his early years, he managed to transition from one job to another with very little difficulty. That he could walk into a sales office, pass himself off as a chauffeur, then just as smoothly move into a sales position, underscored his ability to adapt. Later, when his west-coast airline venture failed, he reinvented his business as a rebuilt aircraft sales outlet and then, when he was almost out of planes to rebuild and sell, he outfitted what remained for aerial photography. On a personal level, within the Florida Airways organization, Chambers switched roles as the situation dictated. One day he would be the airline president, hobnobbing with Florida's social elite to further his venture, while the next he might be assisting a mechanic, flying a route, or carrying mailbags. When, in the follow-on airline

organization, he was pushed aside to a corporate executive job, he chafed to get back into action. As flexible as he was, he never adapted to being idle.

During the war, Chambers developed another aspect of his character that would serve him splendidly in the years ahead; he learned to follow. Up to that point in his life, his successes had always been uniquely his own. He had never had to share the spotlight, nor had he ever functioned as part of a team. In the military, he acquiesced to superior skill and knowledge, accepting his role as a follower. Perhaps it was this experience that produced the symbiotic partnership with the more experienced if less personable David Beebe.

Another thing that Reed Chambers carried from his wartime experience was his celebrity. News of the air war had been a staple in American papers even before the nation's flyers arrived on the scene. When he returned to civilian life, he still carried the mantle of heroism. This was important both in terms of his self-esteem and in the opening of doors for him that might have remained otherwise closed. Perhaps this was a factor in his continued close relations with military personnel throughout his life. Certainly it continued to attract public attention well into his later years, and was touted in his invitation to fly a supersonic Air Force fighter shortly before his death.

All of Chambers' attributes; his curiosity, willpower, communications skills, flexibility, and celebrity, however, would have netted him nothing had it not been for the times. His attributes were mere prerequisites for the success that would follow; a success born as much out of the period of time as by his own contributions. Examining the period, in light of the four analytical devices presented previously, one can see how his

preparations and experience interacted with the opportunities unique to his times to result in his success.

Perhaps the most traditional course of action in reconciling a technological pioneer with his particular industry is to take a look at changes in that technology over time. In Chambers' case, he first became attracted to aviation while still a boy, when flight was in its infancy. He studied models and plans from scientific magazines and replicated what he learned in his own designs, but did not yet possess the knowledge or skill to advance the state of the science.

Even when he began to fly, while in the Army, he was merely a user of existent technologies, forced to rely on engineers and manufacturers for improved designs. Although a decade had passed since the Wright brothers' first flight, the designs Chambers encountered were fairly primitive. Doped cloth, wooden spars, and a tangle of wire provided the rigidity necessary for flight, while minimizing the weight the underpowered engines had to carry. The planes were fragile, slow, and given to frequent mechanical breakdowns.

Even after arriving in France, he had ample reason to be concerned over the state of the aircraft he flew. The training planes were old, by European standards, and badly worn. The non-standardized designs contributed to new pilots' confusion and the resultant accidents. The training procedures, particularly what he experienced on the *rouleur* field, with the cutaway fuselage demonstrations for aerobatics, and in the gunnery class at Cazaux, were insufficient. Most his learning occurred at the front, both from his own mistakes and from the tutelage of more experienced pilots.

Even at the front, Chambers found himself at the mercy of the designers and purchasing agents who procured planes from the French. Although he had initially been ecstatic over his new combat mount, the Nieuport 28 C-1 Scout, he and his fellow airmen quickly realized it too suffered serious design limitations. Most notable of these was its tendency to lose upper-wing fabric in a steep dive, an often-fatal design flaw. After the war, while stationed in Germany, he had a unique opportunity to fly a wide variety of allied and enemy aircraft, noting the strengths and weaknesses of the various designs. Despite his extensive knowledge, however, he was not in a position to provide feedback into the aviation industry. He remained a user – a consumer of the technology, divorced from production.

His status as a consumer did not change after the war. There was a brief episode when he tested airframes for design teams at McCook Field, but his input did not seem to dramatically influence the engineers. Increasingly frustrated with the state of aviation, culminating in the deaths of friends and a very close call in his own aircraft, Chambers left aviation. He wanted to find a commercial application for his flying skills, but was stymied by the limits of the airframes then available.

When he at last ventured back into aviation, first in the west-coast airline venture, then in his own aerial photography service, he had to rely on the industry to provide suitable designs. He was still a consumer when Ford announced its decision to build air transports. Thinking the planes suitable, Chambers purchased them for his fledgling airline, Florida Airways. Although state-of-the-art for their time, they were not amenable to the airlines' needs. They could not handle the small, rough landing strips his airline serviced in northern Florida.

When Chambers joined with Dave Beebe to form their aviation insurance company, he at last found an opportunity to move from the consumer-user end of aviation technology to the design-production end. Committing themselves to those risks that best served the growth and progress of the industry, the partners directly affected American aviation. They backed experiments and designs that promoted safety and innovation, while refusing to cover stunt flyers, barnstormers, and even lighter-than-air flying machines, activities and craft they felt did not further the industry. Without coverage, many of the exhibition flyers and questionable air carriers were forced out of business, while the results of the experiments Chambers and Beebe chose to back advanced aviation technology. Through their coverage decisions, by calculating risks and setting rates on various operations and specific designs in use, they were able to influence the entire industry.

Chambers was also able to influence the industry more directly through his own interaction with manufacturers, designers, and operators. His celebrity and pivotal role as a leader of one of the few insurance sources available to aviation provided him a level of access to the industry that he had not earlier enjoyed. In this capacity, he worked with engineers, designers, and government regulators to improve designs, training procedures, and safety practices. He fought for the mandatory use of seatbelts, championed the Link trainer simulation system, and worked directly with airline leaders and government inspectors to verify operational safety. During the Second World War, he even assembled a team of his own to design a new, small transport for use in remote airfields. That team's decision to adopt a rolled stainless-steel fuselage had dramatic implications,

as it became the industry standard for the majority of American air transport aircraft that followed.

Although their aim was certainly the betterment of American aviation, one should not interpret this to mean the partners' motives were completely altruistic. As safety improved within the industry, accidents decreased. As accidents decreased, their company paid fewer settlements and their business become correspondingly more profitable.

As noted earlier, Chambers' rise to aviation entrepreneur coincided with the rise of the American aviation industry itself. However, other factors than technology contributed to the aviation boon of the 1920s and 1930s the boon into which Chambers and Beebe tapped to make their business a success. There are essentially four components required to create a viable commercial aviation industry: pilots, planes, markets, and capital. Chambers was directly involved in the growth of three of these four components and, in his final role as insurance executive, managed to capitalize on all four.

Although many young men, like Chambers, probably had dreams of flying while still growing up, it took the requirements of the First World War to open flying opportunities to the masses. In its attempt to create a deployable aerial combatant force, training centers were created all over the country and colleges were co-opted for avionics and ground training. He was just one of thousands of young men who poured into these centers to learn to fly. After the war, Chambers and his comrades returned to the United States to find that men who had completed training but had not yet left for Europe had

taken the few flying jobs available. The result was a vast market of unemployed flyers, many of which were eager to get back into the cockpit, should the opportunity arise.

The scarcity of flying jobs was in part a direct result of the scarcity of planes to fly. Certainly one could purchase a war-surplus Jenny, for exhibition flying, but that was dangerous, unsteady work. In the immediate postwar environment, the aircraft manufacturers were devoting their assets exclusively to military designs, improving the speed, range, and reliability of their small pursuit planes. Those in the military benefited, but for those pilots who had hung up their uniforms after the war, there was nothing for them to fly. That began to change in the mid-to-late 1920s when Chambers and a few others began establishing air routes connecting major cities. American manufacturers realized that these entrepreneurs would buy their aircraft somewhere – from foreign manufacturers if they could not buy at home – and decided to begin building airframes suitable for commercial applications.

Chambers' old AT-2s, the Air Pullmans bought for Florida Airways, were the vanguards of a new domestic commercial fleet. Ford followed up on its AT-2 with the venerable AT-4, a larger, three-engine version forever remembered as the "Tin Goose." Within ten years, Boeing produced its 247D, the sleek, stressed-skin transport that introduced streamlining and retractable landing gear. Douglas' DC-3 followed two years later, and became the most widely used transport of its era. By the end of the 1930s, there were sufficient planes and pilots for a formidable aviation industry, and there was also a market.

In 1926, when Chambers had started Florida Airways, he had trouble filling his seats. There was still a lingering doubt in the public's mind over the safety of air travel.

Barnstormers' antics, the abysmal safety record achieved by military flyers when they carried the nation's airmail in 1920, and lingering images of the wild aerobatics they had learned of during the war made flight seem a dangerous alternative to cars or trains. The dearth of passengers made Florida Airways and other air carriers more reliant on their cargo business, particularly their airmail traffic. Moreover, the airmail business was limited at that time. In Chambers' case, because of flying schedules, the train-born mail was actually faster than his air service.

In order for commercial aviation to become lucrative, it needed markets. Those markets opened in America after Charles Lindbergh's flight across the Atlantic Ocean in May of 1927. In the aftermath of that famous flight, passengers, cargo traffic, and prospective pilots flooded into the industry. Chambers and Beebe opened for business in July of 1928, on the crest of that market wave.

The final component necessary for a viable commercial aviation industry is capital. Chambers interacted with capital in two ways; amassing it and protecting it. In his post-war stock-sales endeavors, he learned how to raise capital. Using his selling skills, he was able to convince prospective investors to buy into the organizations he represented. He used these same skills when he started Florida Airways, knocking on the doors of some of the nation's wealthiest men to ask for support. It was to his credit that he avoided less wealthy investors. He recognized the risks inherent in the industry and did not want widows and orphans to risk their money on his venture. Chambers' wealthy investors, probably impressed with both his plans and his status as a World War I ace, gave him all he needed. It was the roaring twenties; the economic times were very good and there was plenty of money to invest. Without insurance, however, he found he had to

go back to his investors with each setback. He quickly realized, given his inability to demonstrate that he could make a profit, that his investors' support would eventually dry up. His guilt over this situation helped drive him to join Beebe in the insurance venture.

Once he had made the decision to join Beebe, he again found himself in the position of having to amass capital for a business. Using his past experiences, he helped to set up a corporation and to organize a stock scenario that kept him and Beebe in control, while building the investments necessary to begin operations. Further, in presenting the company's plan to prospective insurance companies, which would eventually form the insurance pool from which claims would be paid, Chambers was able to demonstrate how their participation would promote America's flying manufacturers and operators. The insurers would be protecting the investors backing aviation, which would have a stabilizing affect on the industry.

Freed from the risks of weather and mechanical difficulties, investors could support airlines more confidently and with higher expectations that they would earn returns. Further, the active role that Chambers and his company played in the industry, enhancing safety and thereby reducing accidents, made air travel more appealing for customers and investors alike.

Through the aviation insurance business, Chambers had a profoundly positive impact on each of these four components of the commercial aviation industry: the quality of airplane designs, the effectiveness of pilot training, the demand for air commerce, and the availability of investment capital. Despite this, not all of the factors influencing his success as an entrepreneurial manager moved in a positive direction. His firm was

seriously hindered by a deteriorating relationship with government agencies throughout its first three decades of operation.

Chambers' prior experience with government agencies, excepting his military service, was positive. While running Florida Airways, he had contracted with the Postal Service for his mail route, and had found the postmaster open to negotiation when he ran into difficulties with his Atlanta schedule. Even at the end of his airlines' commercial life, he found the Postal Service understanding. They appeared equally understanding when Chambers' firm was caught fabricating mail to fill out short loads, as there were no fines imposed or charges made. Further, there were no recriminations when he petitioned to discontinue mail service along his contracted routes.

Upon entering the aviation insurance business, he found governmental agencies equally supportive. The federal government had already made inroads into regulating the aviation industry with the Air Commerce Act of 1926. The stipulations of this act were all aimed at enhancing safety within the industry. State agencies regulated the insurance industry in terms of the products they could offer and the assets they needed to have on hand, but there was little regulation specific to aviation insurance. In their first few years in business, Chambers and his employees worked with federal aviation regulators, even sharing the results of their research and investigations, all for the betterment of industry safety. Later, this mutually supportive relationship deteriorated.

Part of that deterioration can be attributed to the backlash against corporate America, particularly against monopolies, that was a component of the Great Depression. In the earliest investigations, government agents seemed determined to prove that the aviation insurance business was monopolistic. The industry was able to counter this by proving

the existence of competition. As insurance grew to become a major component of an airlines' operating expenses, corporate managers began looking closely at aviation insurers' premiums, and concluded they were unfairly high. They alerted government agencies to the possibility that the insurance industry was exacting unfair profits and again, investigators were sent in to review insurers' operations. The federal agents alleged an international agreement to fix rates, bordering on monopolistic restriction of competition. This was a more difficult fight for the insurance companies and one that took many years to win. Eventually, however, Chambers and his firm were vindicated and the investigations ceased.

Ironically, as the aviation insurers were combating the investigators from the Commerce Department, they were simultaneously working hand-in-hand with airline investigators to improve the safety of air travel. Each time that Federal Aviation Administration inspectors corrected problems in commercial air operations, Chambers and his associates benefited. Safer operations meant reduced risk, fewer claims, and therefore, higher profits.

It seems likely that the airline operators understood and probably resented the symbiotic relationship their insurers enjoyed with airline inspectors. They corrected discrepancies and paid fines to improve safety even while their insurers continued to collect premiums and make a profit. Perhaps this realization materialized in airline operators complaining to the federal government about unfair business practices.

Whatever the motive, the investigations lasted for years before the insurance industry was finally vindicated.

The final element of Chambers' growth as an entrepreneurial manager involved his relationship with subordinates and peers. His success in solitary pursuits early in life gave his self-confidence. When he and Rickenbacker were ostracized during their first few months at the front, Chambers was not discouraged, even serving as his squadron's bar officer for a time. During his service years, however, he transformed. He became much less the loner and much more the team player.

Although obviously a proud man, Chambers never shied away from hard work and seemed as comfortable working on an engine as with high-ranking military dignitaries and the social elite. Still, he strived to be a member of the aristocracy all his life, seemingly more eager for the trappings of wealth and influence than for the wealth itself. His adaptability to various situations, his affability, and his social drive were all factors in his relationships with subordinates and peers alike.

Another factor driving Chambers was his paternal nature. He felt responsible for his employees and their well being. One can see this both in his aerial photography business, when he struggled to keep his two friends employed, and later in Florida Airways, when he went to great lengths to ensure that he could continue to meet his payroll. Perhaps it is most clear, however, in his relationship with his USAU employees.

Over time, Chambers' paternal concern for these employees grew to impressive levels. He sought the best medical coverage, provided retirement plans and educational support and, after Beebe's death, made his loyal employees part owners in his business. He also brought them into his home and onto this yacht, reaching out more as a coworker than an employer. It is obvious Reed Chambers respected his people and held them in high regard.

Another benefit of his approach to employees was the reputation his company had within the industry. It was known as a good place to work and, although Dave Beebe and Chambers had agreed they would not hire their family members, many of their employees encouraged friends and family members to join them at USAU, providing a constant source of eager, grateful workers. Chambers' approach also allowed him to avoid attempts by various unions to organize his employees. He was staunchly against organized labor and, through his paternal support for his employees and their loyalty to him, was able to avoid what he would undoubtedly have regarded as a major setback.

Chambers sought to surround himself with employees that were both experts in their fields and loyal to both himself and his firm. He counted on their honest advice and backed them on the decisions they were empowered to make. The importance of personal loyalty, a lesson that he had learned during the war, guided Chambers in his relationships for the remainder of his life. He bound people to him by demonstrating concern, by listening to their ideas, and by sharing his time and his own ideas.

His "one-of-the-gang" approach to leadership was an important part of his success in his employer-employee relationships. Employees visited him in his home, were invited down for cruises on his yacht, and were able to share travel stories, thoughts, and reminiscences during personal time at the office. He met them where they worked and he spoke their language. Chambers, despite his desire for social status, projected the image of an average, middle-class man. If an employee could get past his gruff exterior, one found a receptive, caring boss who wanted the very best for his company and its employees. The result of Chambers' effort was a fierce, personal loyalty in his employees

for their boss; a loyalty that lingered among those who worked for him then, even more than twenty-five years after his death.

Chambers' common-man approach was not reserved for the office. When it came time to inspect airline operations, he was the one who would visit his clients. As comfortable with the corporate executives as with the aviation mechanics, he could interact to learn things a less adaptable man might miss. When USAU launched its safety program, Dave Beebe wrote to the corporate giants, but it was Chambers who contacted the pilots, mechanics, mid-level managers, and other key workers in the industry. He never lost the ability to communicate on the same level with any audience.

Lastly, like many great entrepreneurs, Chambers was a visionary. He shared this vision with subordinates and peers alike. His infectious enthusiasm for a project or an idea kept people bound to him even when it was obvious that his vision might be flawed; that success might not be around the corner. The enthusiasm Chambers mustered among his original Florida Airways staff and the fact that the majority of that staff remained intact despite months of setbacks underscore his personal magnetism and devotion to his vision.

All of these factors served to Chambers' advantage as he moved into the aviation insurance business. His symbiotic relationship with Dave Beebe was born out of the pair's realization that Beebe knew the business, while Chambers provided the voice and vision for their projects. As he had done with Rickenbacker and Lufbery at the front, Chambers easily acquiesced to Dave Beebe's superior wisdom on matters involving insurance operations. Conversely, Beebe was more than willing to let his more

headstrong partner manage the office, handle personnel matters, and serve as the spokesman for their business.

Reed Chambers was an extraordinary man, but he was aided on his path to success by the fact that he lived in extraordinary times. Although his early life and subsequent military service had provided him all the prerequisites he would need for success, it was the era in which he lived that provided him the opportunities to become a successful aviation entrepreneur. The technological boon of the interwar years, the availability of pilots, the introduction of new airframes suitable for commercial applications, the growth of demand for air services, and the corresponding increased interest among investors all helped fuel Chambers along his journey. The intervention of some governmental agencies, which aided him by helping to making aviation a safer and therefore more profitable industry, more than compensated for the challenges Chambers' company faced when other federal agencies sought to challenge the nature of his operations or the extent of his profits. Lastly, Chambers cultivated personal loyalties among friends, peers, and subordinates alike, to fashion a team that would share his vision and help carry his endeavors to a successful conclusion.

Reed Chambers came a long way from a farm in eastern Kansas to his eventual end in the blue seas of the Caribbean. He made many friends, fashioned quite a reputation for himself, and helped create an organization that remains one of the leaders in the aviation insurance industry today. His rise is instructive not just because of what it tells us about this man in this industry, but because of what it tells us about the character of the human spirit. Perseverance, devotion to a vision, personal loyalty, integrity, adaptability; these were all character traits that helped Chambers in his climb to success, just as they are

vital to any aspiring entrepreneur today. Just as important to Chambers' particular story, however, were the times in which he lived and the unique opportunities he encountered along his path. His success, like the success of so many others, lay at the crossroads of personal preparation and opportunity. He learned from his failures and capitalized on his opportunities to make a distinct and lasting impression on the American commercial aviation industry. In a very real way, that industry remains his legacy today.

BIBLIOGRAPHY

Military Records

Berry, Harry. Report of the Regimental Commander, First Tennessee Infantry, Nashville, Tennessee, March 31, 1917, excerpted in Bruce C. Richert, *History of the Chickasaw Guards, Memphis, Tennessee, 1874-1953*, unpublished manuscript, Memphis Room, Cossitt Library, Memphis, Tennessee, undated.

Chambers, Reed. "History of the 94th Aero Squadron," undated, filed in the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

———. *Information Regarding Squadron Casualties*, undated report prepared in response to a higher-headquarters query dated February 10, 1919.

The Complete History of the First Pursuit Group, 1918-1941, on file at the United States Air Force Library, Maxwell Air Force Base, Alabama.

Gorrell, Edgar S. *History, Air Service, American Expeditionary Force*, on file at Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

History of the 94th Aero Squadron, undated, filed in the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Official Victories of the 94th Aero Squadron, undated, filed in the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Personal effects inventories, 94th Aero Squadron. File consisted of a number of inventory forms, completed by an officer assigned to collect and itemize personal possessions of those officers lost in battle. Filed in the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Report of Operations (a daily summary of flying and maintenance activities), *Reconnaissance Reports* (written reports detailing pilots' observations and enemy planes encountered), and *Combat Reports* (details of combats, including numbers and types of enemy planes engaged, rounds fired, and estimates on results) for the 94th Aero Squadron, created during the squadron's service on the front. These are filed in the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Summary of Air Information, Air Intelligence Bulletin. The entire collection of WWI *Intelligence Bulletins* was declassified after the war, bound, and published as a single volume. There is no publication data on this bound version. A copy is on file at the United States Air Force Library, Maxwell Air Force Base, Alabama.

Oral Histories/Interviews

Ackerly, Polly, interview by the author, tape recording, March 25, 2002, residence, Coral Gables, Florida, transcript in the author's possession.

Brooks Arthur, tape recorded recollections, undated, from the Oral History Collection, Air Force Historical Research Agency, Maxwell Air Force Base, Alabama, transcription by author

Campbell, Douglas. Interviewer unknown, conducted July 8, 1964, from the Oral History Collection, Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Chambers, Reed. *The Reminiscences of Reed Chambers*, interview by Kenneth Leish as part of *The American Heritage History of Flight* project. Interview conducted in October 1960, transcripts filed in the Oral History Collection of Columbia University, New York, New York, and at the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

———. Interview by Daniel Chambers, great-nephew, tape recording, June 24, 1967, residence, Huntington, New York, transcript in the author's possession.

D'Olive, Charles. *The Reminiscences of Charles D'Olive*, conducted by an unknown interviewer as part of *The American Heritage History of Flight* project. Interview conducted June 16, 1969, transcripts filed in the Oral History Collection of Columbia University, New York, New York, and at the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Martinez, Marie Caulfield, interview by the author, tape recording, February 20, 2002, United States Aviation Underwriters Headquarters, New York City, transcript in the author's possession.

Spaatz, Ruth. Interview by James C. Hasdorff, March 3, 1989, from the Oral History Collection, Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Stone, Guy O. Interview by Richard W. Iobst, August 13, 1980, location unknown, transcript on file in squadron histories section of Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Vallone, Pasquale, interview by the author, tape recording, February 19, 2002, United States Aviation Underwriters Headquarters, New York City, transcript in the author's possession.

Letters

Brennan, John V. to Gilbert White, March 7, 1989, on file in the United States Aviation Underwriters archives.

Burden, William A. to Edward G. Budd Manufacturing Company, December 10, 1941, United States Aviation Underwriters archives, New York City.

Campbell, Douglas to Marie Caulfield Martinez, January 18, 1972, from Martinez's personal collection.

Clayton, William to Reed Chambers, July 10, 1943, United States Aviation Underwriters archives, New York City.

Chambers, Reed to Winnie and Sherman Chambers, May 9, 1918, United States Aviation Underwriters archives.

—— to the Board of Directors, United Air Lines, April 8, 1937, United States Aviation Underwriters archives, New York City.

—— to the Board of Directors, United Air Lines, May 18, 1937, United States Aviation Underwriters archives, New York City.

—— to Erik Nelson, August 18, 1941, United States Aviation Underwriters archives, New York City.

—— "Memorandum to Members of the Aviation Division of the Defense Supply Corporation Basic Design Committee (Cargo Plane)," August 26, 1941, United States Aviation Underwriters Archives, New York City.

—— to Allan H. Lockheed, December 11, 1941, United States Aviation Underwriters archives, New York City.

—— to Messrs Oliver R. Beckwith, et. al., July 21, 1948, United States Aviation Underwriters archives, New York City.

—— to Trubee Davison, July 20, 1953, United States Aviation Underwriters archives, New York City.

—— to A. C. ("Wally") Wallace, March 18, 1954, United States Aviation Underwriters archives, New York City.

—— to Bergen Hardesty, November 4, 1955, United States Aviation Underwriters archives, New York City.

—— to Richard Anderson and Albert Smith, May 12, 1960, on file in the United States Aviation Underwriters archives.

—— to Samuel Eppley, November 5, 1964, United States Aviation Underwriters archives, New York City.

—— to Harry Block, April 2, 1965, United States Aviation Underwriters archives, New York City.

- to Corwin H. Meyer, May 24, 1965, United States Aviation Underwriters archives, New York City.
- to Paul Mason of *The Cincinnati Enquirer*, October 5, 1966, United States Aviation Underwriters archives, New York City.
- to Lela Givens, January 8, 1969, United States Aviation Underwriters archives, New York City.
- to Ron Oro, August 5, 1971, United States Aviation Underwriters archives, New York City.

- Crary, Harold to Reed Chambers, June 23, 1961, United States Aviation Underwriters archives, New York City.

- Havens, Donald to U.S. Congress, June 4, 1943, United States Aviation Underwriters archives, New York City.

- Jones, Casey to David Beebe, December 28, 1943, United States Aviation Underwriters archives, New York City.

- Jones, Jesse to Reed Chambers, July 15, 1943, United States Aviation Underwriters archives, New York City.

- Judah, Noble B., Assistant Chief of Staff, G-2, 42nd Division to Assistant Chief of Staff, G-2, 5th Army Corps, October 20, 1918, subject "Effects of Lieutenant Garnsey," filed in Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

- Lockheed, Alan to Reed Chambers, December 8, 1941, United States Aviation Underwriters archives, New York City.

- Martinez, Marie Caulfield to George Chambers, March 6, 1972, from Martinez's personal collection.
- to Arthur Holgate, March 6, 1972, from Martinez's personal collection.
- to F. W. Conant, March 20, 1972, from Martinez's personal collection.
- to Mr. Royal D. Frey, Curator of the Air Force Museum, January 9, 1973, with attachment "Estate of Reed M. Chambers – Books," on file in United States Aviation Underwriters archives, New York City.
- to Mr. Royal D. Frey, March 28, 1973, from Martinez's personal collection.
- to Elvin Seibert, December 4, 1973, from Martinez's personal collection.
- to Sandy Colton, December 2, 1981, from Martinez's personal collection.

- Martinez, Marie Caulfield to Matthew Stafford, January 11, 2003, from author's personal collection.

- Patterson, William A. to David Beebe, December 29, 1943, United States Aviation Underwriters archives, New York City.

Rickenbacker Edward V, telegram to Jim Fortuna, January 17, 1972, United States Aviation Underwriters archives, New York City.

Roosevelt, Philip to Arthur Brooks, Feb 14, 1921, on file in Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Uppstrom, Richard L. to Polly Ackerly, January 6, 1984, from Ackerly's personal collection.

Ward, Thomas Washington. "A Little More History of the First Reserve," December 31, 1939, unpublished correspondence filed in Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Watter, Michael to Reed Chambers, October 11, 1966, United States Aviation Underwriters archives, New York City.

White, Gilbert M. to John V. Brennan, February 27, 1989, on file in the United States Aviation Underwriters archives.

Books

Allen, Oliver E. *The Airline Builders*, Time-Life Books, Alexandria, Virginia, 1981.

Angelucci Enzo, editor. *The Illustrated Encyclopedia of Military Aircraft, 1914 to the Present*, Chartwell Books, Edison, New Jersey, 2001.

Bacon, William J. *History of the Fifty-Fifth Field Artillery Brigade, AEF*, Benson Printing Company, Nashville, Tennessee, 1920.

Batchelor, John and Ian Hogg. *Artillery*, Charles Scribner's Sons, New York, 1972.

Bauer, Eddy *Illustrated World War II Encyclopedia*, H. S. Stuttman, Incorporated., New York, 1966.

Beebe, David. *Through Twenty-Five Years* – no publisher listed – 1944.

Biddle, Charles J. *Fighting Airman: The Way of the Eagle*, Ace Books, New York, New York, 1968.

Brimer, Dorothy, Marjorie Labbe, and Mary Lieb. *The History of Onaga, Valley Ho!* Publishing Company, St. Mary's, Kansas, 1982.

Buckley, Harold. *Squadron 95*, The Obelisk Press, Paris, 1933.

- Cameron, Rebecca Hancock. *Training to Fly: Military Flight Training 1907-1945*, Air Force History and Museums Program, 1999.
- Clark, Alan. *Aces High, The War in the Air Over the Western Front, 1914-1918*, Barnes and Noble Books, New York, 1999.
- Cooke, James J. *The U.S. Air Service in the Great War, 1917-1919*, Praeger Press, Westport, Connecticut, 1996.
- Davis, Burke. *The Billy Mitchell Affair*, Random House, New York, 1967.
- Eisenhower, John S. D. *Yanks, The Epic Story of the American Army in World War I*, The Free Press, New York, 2001.
- Ellis, John and Michael Cox. *The World War I Databook; The Essential Facts and Figures for all the Combatants*, Aurum Press Limited, London, 2001.
- Funderburk, Thomas R. *The Fighters, the Men and Machines of the First Air War*, Grosset & Dunlap, New York, 1965.
- Griess, Thomas E., Editor, *The West Point Military History Series, Atlas for the Great War*, Avery Publishing Group, Wayne, New Jersey, 1986.
- Hartney, Harold. *Up and At 'Em*, Stackpole Sons, Harrisburg Pennsylvania, 1940.
- Holden, Henry A. *The Fabulous Ford Tri-Motors*, Tab Books, Blue Ridge, Pennsylvania, 1992.
- Hudson, James J. *Hostile Skies, A Combat History of the American Air Service in World War I*, Syracuse University Press, Syracuse, New York, 1968.
- Ingle, John P., Jr. *Aviation's Earliest Years in Jacksonville, 1878-1935*, Jacksonville Historical Society, Jacksonville, Florida, 1977.
- Iola Register*. *A Pictorial History of Allen Country*, Heritage House Publishing, Marcelline, Missouri, 1991.
- Jackson, Donald Dale. *Flying the Mail*, Time-Life Books, Alexandria, Virginia, 1982.
- Jane's Fighting Aircraft of World War I*, Military Press, New York, 1990.
- Joseph, Alvin M., Jr., editor. *The American Heritage History of Flight*, American Heritage Publishing Company, Incorporated, New York, 1962.
- Kennedy, David M. *Over Here, The First World War and American Society*, Oxford University Press, New York, 1980.

- Kennett, Lee. *The First Air War, 1914-1918*, The Free Press, New York, 1991.
- Kirkland, Esther E. *History of the San Antonio Air Service Command*, Headquarters, San Antonio Air Service Command, Kelly Field, Texas, 24 July 1944.
- Kroll, Lieutenant H. D. *Kelly Field and the Great War*, Press of San Antonio Printing Company, Texas, 1919.
- Lazarus, William C. *Wings in the Sun, the Annals of Aviation in Florida*, Tyn Cobb's Florida Press, Orlando, Florida, 1951.
- Maurer, Maurer, ed. *The U.S. Air Service in World War I*, Vol. I: "The Final Report and a Tactical History," Washington DC, the Office of Air Force History.
- . *Aviation in the U.S. Army, 1919-1939*, Office of Air Force History, Washington DC, 1987.
- McIlwaine, Shields. *Memphis, Down in Dixie*, E.P Dutton and Company, Inc., New York, 1948.
- March, Francis A. *History of the World War, An Authentic Narrative of the World's Greatest War*, United Publishers of the United States and Canada, Philadelphia, 1919.
- Marshall, S.L.A. *The American Heritage History of World War I*, American Heritage publishing Company, Inc., New York, 1985.
- Mason, Patrick. *The United States in the Air*, Garden City, N.Y., Doubleday, Doran & Co, 1928.
- Mitchell, William. *Memoirs of World War I*, New York, Random House, 1960.
- Morrow, John. *The Great War in the Air*, Smithsonian Institution Press, Washington D.C., 1993.
- Morse, Daniel P. *The History of the 50th Aero Squadron, The "Dutch Girl" Observation Squadron in World War I*, Blanchard Press, New York, 1920.
- Murray, Robert K. *The Harding Era, Warren G. Harding and His Administration*, University of Minnesota Press, Minneapolis, 1969.
- Nevin, David. *The Pathfinders*, Time-Life Books, Alexandria, Virginia, 1980.
- New England Aviators, 1914-1918, Their Portraits and Their Records*, Volumes I and II, Schiffer Military History, Atglen, Pennsylvania, 1997.

Orr, George W. "The Warsaw Convention," *Virginia Law Review*, Volume XXXI, No. 2, March 1945.

Predergast, Curtis. *The First Aviators*, Time-Life Books, Alexandria, Virginia, 1981.

Rickenbacker, Edward V. *Fighting the Flying Circus*, Frederick A. Stokes Company, New York, 1919.

———. *Rickenbacker*, Prentice Hall, Incorporated, Englewood Cliffs, New Jersey, 1967.

Robertson, Bruce, editor. *Air Aces of the 1914-1918 War*, The Garden City Press Limited, Letchworth, Herts, England, 1959.

Sigafoos, Robert A. *Cotton Row to Beale Street, A Business History of Memphis*, Memphis State University Press, 1979.

Smith, J. R. *German Aircraft of the Second World War*, The Nautical and Aviation Publishing Company of America, Baltimore, Maryland, 1972.

Taylor, Arthur Robert. *A Brief History of the Chickasaw Guards*, Lippincott Publishing Co., Memphis, Tennessee, 1914.

US Army Signal Corps, *U.S. Official Pictures of the World War, Showing America's Participation*, Pictorial Bureau, Washington DC, 170.

Weal, Elke C. *Combat Aircraft of World War Two*, McMillan Publishing Company, Incorporated, New York, 1977.

Woodhouse, Henry. *Textbook of Military Aeronautics*, Century Company, New York, 1918.

Magazines and Periodicals

Ackerman, E. M. "Quarter Century Anniversary Observed by United States Aircraft Insurance Group," *The Weekly Underwriter*, July 11, 1953.

———. "Insurance – Companion of Aviation," *The Weekly Underwriter*, November 21, 1953.

"Acknowledgments," *Cross and Cockade, the Magazine of the Society of World War I Aero Historians*, February 1972.

"Air Commerce: Jet Insurance Probe – a U.S. Investigation," *Flight* (English Edition), March 3, 1961.

Aviation Insurance News, Vol. 28, No. 2, April/May 1997, United States Aviation Insurance Group publication, United States Aviation Underwriters archives, New York City.

Bruno, H. A. "The Eye in the Sky," *Aero Digest*, May 1924, Vol. 4, No. 65

Davies, Ron. "The Story of a Great American Airline: Pan-American is Forty," *Esso Air World*, September/October 1967.

"Development of Transport Airplanes and Air Transport Equipment, Part V; From Caravan to Packet, 1940-1945," *AAHS Journal*, Vol. 46, No. 1, Spring 2001

Kelly Field Eagle, Volume 3, Number 6, Thursday, March 20, 1919. Copy on file at Lackland Air Force Base Historian's Office.

McCombs, Holland. "War Taps Brazil's Wild Rubber," *Life*, Vol. 14, No. 21, May 24, 1943.

Park, Edward. "The Greatest Aerial Photos Go Down In Flames," *Smithsonian*, Volume 15, Number 10, January 1985.

"Reorganization at US Aviation Underwriters," *Western Underwriter*, January 1944.

Rhodes, Russell. "U.S. Aircraft Group Now Ten Years Old," *The Weekly Underwriter*, July 2, 1938.

Rickenbacker, Edward V. "Rickenbacker Speaks," *Aero Digest*, June, 1924, Volume 4, Number 6.

"Spad to F-106," *Air Force Times*, October 25, 1967.

"Ten Years in the Air – Feet on the Ground," *The Spectator*, July 14, 1938.

"U.S. Aviation Underwriters, Inc., Was Formed Quarter of Century Ago," *The Eastern Underwriter*, July 3, 1953.

Young, Robert Jr. "A Great Career: Chambers, Aviation and Insurance Pioneer, Retires," *The Weekly Underwriter*, Vol. 199, No. 3, July 20, 1968.

Newspaper Articles

"Aeronautical Body's Members in U.S. Named," *New York Herald Tribune*, September 24, 1941.

"Air Board is Formed for Pan-American Aid," *New York Times*, September 24, 1941

"Aviation Pioneer Reed Chambers Dead at 68," *The Daily News of the Virgin Islands*, January 18, 1972.

Bedwell, Don. "At Death of Pioneer Flier, Thoughts Turn to Florida Airways," *The Miami Herald*, Sun, June 2, 1968.

Bogart, Frank. "First Ford Plane Presages Cross-U.S. Air Freight," *Los Angeles Examiner*, April 26, 1925, Vol. XXII, No 136.

Cefola, Carl V. "Insurance Men Study Post-War Aviation Field," *New York Times*, undated. Clipping uncovered in United States Aviation Underwriters archives, New York City.

Colton, Sandy. "Rare WWI Shots in Dream Find," *Staten Island Advance*, November 22, 1981.

"4 Ford Planes Leave for Florida Service," *The Detroit Free Press*, Monday, December 28, 1925; and "Aviators Lose Way in Storm," Tuesday, December 29, 1925.

Obituaries on Sally Chambers Eldredge, *New York Times*, *World Telegram*, *New York Sun*, and *New York Herald Tribune*, July 8, 1957.

Silver, Louis. "Tracers Over France Streak Again at Reunion," *Memphis Commercial Appeal*, Memphis, Tennessee, November 12, 1963.

"Stainless Steel Cargo Plane is Built for Navy," *New York Herald Tribune*, May 14, 1944.

Symontowne, Russ. "Brazil to Sell Amazon Rubber to U.S. at 60 Centers a Pound," *New York Daily News*, February 9, 1944.

Other

Ackerly, Polly. Photograph collection.

Beebe, Dave USAIG Hull and Casualty Memoranda, a series of informative bulletins prepared to alert member companies to decisions, incidents, risks, and developments within the company. United States Aviation Underwriters archives, New York City.

Certificate of Live Birth for Reed McKinley Chambers, Pottawatomie County, Kansas, issued by J. W. Dunn, April 7, 1930.

Certificate of Death for Reed McKinley Chambers, Virgin Islands Department of Health, January 16, 1972, certified by Dr. W. E. C. Taylor.

Chambers, Daniel, telephone conversation with author, April 11, 2002.

—. "David E. Beebe," undated biography written sometime after Beebe's death on March 28, 1950, and filed among Reed Chambers' personal papers within the United States Aviation Underwriters archives, New York City.

Chambers, Reed, discharge certificate, dated June 30, 1920, on file in United States Aviation Underwriters archives, New York City.

—, memoranda, a collection prepared during Reed's association with United States Aviation Underwriters, detailing decisions and events of the day, filed in United States Aviation Underwriters archives, New York City.

—. "Thirty Third Anniversary of USAIG," undated memorandum (probably authored in spring, 1961), United States Aviation Underwriters archives, New York City.

—. "Condensed Report on the Meetings of the Basic Design Committee (Cargo Plane) of the Defense Supply Corporation," September 2, 1941, United States Aviation Underwriters archives, New York City.

—. "What Insurance is Doing for Aviation," a paper presented to the open forum of the Aviation Insurance Law Committee, International Association of Insurance Counsel, at Chicago, Illinois, on September 8, 1944, on file at the United States Aviation Underwriters archives, New York City.

—. "Organization of United States Aviation Underwriters and United States Aircraft Insurance Group," undated, filed in the United States Aviation Underwriters archives, New York City.

—. "Looking to the Future of the USAIG," April 10, 1950, United States Aviation Underwriters archives, New York City.

Chambers, Winnie. Undated, unpublished photograph album, contributed by Daniel Chambers, Tucson, Arizona.

"Development of the Rubber Program for the Period August 15 to December 31, 1942," an undated, unpublished eleven-page history of the Defense Supplies Corporation's actions in South America uncovered in the United States Aviation Underwriters archives, New York City.

Doolittle, James H. "Remarks," delivered at the twenty-fifth anniversary celebration of the United States Aviation Insurance Group, the Waldorf-Astoria hotel, New York, June 30, 1953. A transcript of the speech is on file at the United States Aviation Underwriters archives, New York City.

Faddis, Ida. *The Weith, Newton, and Faddis Story From 1870 to 1970*, undated, unpublished genealogical report, on file at the Iola Free Public University, Iola Kansas.

"Features of the Stout Air Pullman," promotional flyer, undated with no publication information, on file in United States Aviation Underwriters archives, New York City.

Florida Airways sales brochure, 1926, on file in United States Aviation Underwriters archives, New York City.

Hartz, Robert E. 94th Scrapbook. Undated, unpublished commemorative collection of photographs, facts, and brief biographies to commemorate a squadron reunion held sometime prior to February 25, 1930, the file date penned on the front of the copy at the Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Kelly Field History: "A History of Kelly Field," "Kelly Field," and "Air Service Mechanics' School," three unpublished, undated documents, detailing the early years of the base's history, on file at the Lackland Air Force Base Historian's Office, Lackland Air Force Base, Texas.

Memphis Street Guide, 1914, Memphis Room, Cossitt Library, Memphis, Tennessee.

New York City Department of Records and Information Services, Tax Department Photograph, "80 John Street," 1940, New York City Municipal Archives.

Sheridan, John "Statement," November 11, 1942, an unpublished report describing the Defense Supplies Corporation's actions in South America. Filed in the United States Aviation Underwriters archives, New York City.

———. "Record of Conversation," undated, filed in the United States Aviation Underwriters archives, New York City.

———. "Memorandum," December 22, 1942, filed in the United States Aviation Underwriters archives, New York City.

Tuan, Kailin. "Aviation Insurance in America, Half a Century's Progress," a paper presented at the annual meeting of the American Risk and Insurance Association, Chicago, Illinois, August 31 to September 2, 1964. Transcript on file in United States Aviation Underwriters archives, New York City.

Turner, Sharon. Photograph collection.

United States Aviation Underwriters. Historical policy and claims files, United States Aviation Underwriters archives, New York City.

———. "Comments of United States Aviation Underwriters, Inc., on 'A Study of Aviation Insurance,' prepared by the Civil Aeronautics Board," New York, May 8, 1944, United States Aviation Underwriters archives, New York City.

———. "Statement of the United States Aviation Underwriters, Incorporated, Submitted to Subcommittee on Antitrust and Monopoly of the Committee on the Judiciary, August 28, 1959," United States Aviation Underwriters archives, New York City.

———. press releases. "Reed M. Chambers, Aviation and Insurance Pioneer, Retires," dated July 15, 1968, and "Additional Data on Reed M. Chambers, Aviation Pioneer," undated. Filed in United States Aviation Underwriters archives, New York City.

Watter, Michael. "The Story of the RB-1 Stainless Steel Cargo Airplane," paper presented to the Washington Aero Historians Meeting of the American Aviation Historical Society, Washington D.C., October 15, 1966.

Williams, Walter S. Diary, on file at Air Force Historical Research Agency, Maxwell Air Force Base, Alabama.

Website:

http://sunsite.berkeley.edu/uchistory/general_history/overview/regents/biographies_p.html

Wings Club Yearbook, 1944-1947, undated, from United States Aviation Underwriters archives, New York City.